

IMPERIAL GAZETTEER OF INDIA



PROVINCIAL SERIES

KASHMIR
AND
JAMMU

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KASHMIR AND JAMMU



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PREFACE

THE articles in this volume have been written by Sir Walter Lawrence, Bart., G.C.I.E., who wishes to acknowledge his special indebtedness to Major J. L. Kays, late Settlement Commissioner of Jammu and Kashmir, and to Major S. H. Godfrey, C.I.E., who verified the proofs, added much new matter, and enabled the author to bring the information up to date.

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PROVINCIAL GAZETTEERS OF INDIA

KASHMIR AND JAMMU

Kashmir and Jammu. The territories of the Mahārājā of Kashmir and Jammu may be roughly described in the words of the treaty of March 6, 1846, as occupied in the eastward of the river Indus and westward of the river Ravi. This country known to the English as Kashmir and to the Indians as Jammu, covers an area of 16,000 square miles, extending from 32° 1' to 36° 48' N and from 73° 26' to 80° 30' E. It may be likened to a funnel with many nozzles. The spout is at Jammu, and the large basin south hanging out on the Punjab frontier of India, up to India, and 1 mile long. There is just a fringe of level land along the Punjab frontier bounded by a plain of low hills country sparsely wooded, broken, and irregular. This is known as the Jammu the home of the Jats and the Dogras. Then comes the first nozzle in which which a range of mountains, 10,000 feet high, must be climbed. This is a temperate country with forests of oak, rhododendron, and chestnut and higher up of cedar and pine. A country of beautiful scenery, such as Bhaderwah and Kishtwar drained by the deep gorges of the Chenab river. The deeps of the Himalayan range breaks to the Pir Panjal lead to the second nozzle on which rises the exquisite valley of Kashmir drained by the Indus river. To compare heights of the Himalayas we pass to Annapurna and Dhaulagiri on the north and to Ladakh on the east a tract drained by the river Indus. In the back passes, far away to the north west, lies Ladakh, west and north of the Indus, the whole area shaded by a wall of great mountains which run east from the Kailash or Kintash peaks of the Hindu Kush, leading to the Pirs and the Chigera dominions past Katapirah 15,100 feet, along the Marigh range past K 1 (Jammu Annapurna 25,105 feet), Gashirum and Masherum 25,100 and 25,400 feet respectively to the Karakoram range which merges in the Kailash mountains. Westward of the northern angle above

Marat-Nagar the mighty mass of mountains and glaciers trends a little south of east along the Hindu Kush range bordering Chitral, and so on into the lands of Kafiristan and Afghan territory.

At the Karampora pass 12,517 feet the well known, and to the north-east of the State is a high range beyond of mountain peaks at an elevation of over 10,000 feet, with all sides dotted about. Little is known of the history and the administration of Jammu and Kashmir has but nearly unanimous about the Eastern wall of the province which is formed of mountains of an elevation of about 20,000 feet, and some peaks, like Pangong, rising at a height of nearly 25,000 feet. The southern boundary repeats the same features. Grand mountains running in peaks of over 20,000 feet, but further west where the snow deep down more rapidly to the south the elevation is much less. We come to Mahabharat 9,422 feet and to the still lower heights of Banch 11,110 feet. In the Ravi river from Madhupur the head works of the Ran Bakhiana. The Ravi river seems to be the boundary and a line running for a few miles and the watershed of the low Shyok hills runs fairly straight to Jammu. A smaller line, marked by a double row of trees, runs west from Ladakh to the Ravi river. From the south-west corner of the territories the Indus river forms an almost straight boundary on the west as far as its junction with the Ravi river is once north of Ladakh. At that point the western boundary leaves the river and clings to the mountains, running in a long straight line to the great snow range of Nanga Parbat 26,122 feet. Thence it runs almost due north to the crossing of the Indus at Ramtha under the Haririb then north-west, crossing in Poonch, Baramulla, and Koh the Mahasarak or Poonch of which Jammu is larger and more country and looking on to the Hindu Kush and Muzdagh ranges which lead north to Chinese territory and south to Hunan Nagar and Guga.

It is said of the first Mahabharat with Singh, the founder of the empire, that when he surveyed his new purchase the valley of Kashmir he grieved and remarked that one-third of the country was mountains, the hind water and the remainder devoted to privileged persons. Noting of the extent of his dominions, he might without exaggeration have described them as nothing but mountains. There are valleys, and occasional ones in the deep canyons of the mighty rivers, but the mountain is the overwhelming feature and has strongly affected the history, habits, and agriculture of the

people journeying along the haphazard paths which skirt the river banks, to the street all bars the way and the track is forced thousands of feet over the mountain top, one finds the a chud wandering in the narrow and tortuous alleys which surround some old cathedra in England.

It is impossible within the limit of this article to draw in detail a) the roads and rivers where men live, b) the hard lives and c) the poor crops in the face of the enormous difficulties. There are interesting tracts like Pader on the southern border, surrounded by perpetual snow where the edible pine and the dwarf flowers, and where the sunshine is scarce and the moon has long. It was in Pader that the valuable poppies were found, pronounced by experts the finest in the world. Further east from the glaciers into the mountain high country of Zaskar, and to the south is copper where the people and still live under the old methods out of the zone, where trees are scarce and food is scarce. Zaskar has a fine breed of ponies. Further east is the city Bughu the lowest point of which is 15,000 feet and even at this great height barley grows, though often it is in the higher places owing to early snowfall. In Bughu live the famous (happier) who are able to work in an air of extraordinary rarity and unpleasant battery of the heat of Leh (11,000 feet).

Everywhere on the mass of mountains are places worthy of mention, but the reader will get a better idea of the country if he follows one of the better known routes. A typical route may be that along which the Chinese emissaries travel from Lhasa the Tibetan capital past the Summer Palace at Srinagar to Kashgar to the distant outpost at Lajin. The traveller will leave the railway terminus on the south bank of the Indus the picturesque river on which farmers in both Tibet and China (10,000 feet) the road runs gently to Dargah (11,000 feet) passing through a many country of low hills covered with grass, then a steep bank of grey sandstone where vegetation is very scarce and in Lhasa (12,000 feet) dropping down again to 11,500 feet and lower still to Bishan (11,000 feet) where the Indus river is crossed then steadily up to the Barshai pass 9,750 feet is gained and the valley of Kashmir is before.

So far the route has been broken and the track obvious, with numerous ridges, and for the most part of the except the side of the Barshai, the pine woods of Chama, and the slopes between Bishan and Dargah Barshai a more series of the unbroken of valleys, obscured by forests. It is a

from the low branches of the Pashu plants, which climb among the piercing mountains, there are grand forests of pines and firs. Down the receding slopes with mountain streams white with foam, passing in their course through clefts of the poorest rocks. When the great dark forests cease and the brighter sun and begins the banks of the streams are strewed with rhododendrons, honey-suckle, jessamine and wild roses which surround some of the lakes. The green smooth part of the broadest of glaciers is like a well-kept lawn, dotted with clumps of hawthorn and other beautiful trees and bushes. I would at first think it denoted the colours that are seen in the Kashmir mountains in early morning they are often a dense semi-transparent mist formed against a wall of hills and with light vapours clinging to the steep sides. The rays sun decrease the shadows, are just over a very narrow and winding passages of purple and blue in the deep woods. Later on it is mostly all blue and lavender, with white snow peaks and ridges under a vertical hue and at the afternoon hours the blue becomes rather violet and over the whole gradually changing to rose and pink with yellow or orange where the last rays of the sun have given hue to the mountains and a white crown with the white snowing a pale rosy glow in the air and looking downwards down the steep canyons the rays in the sun are like the hair of the sun. The pale ends of the distant trees and high peaks of the rising sun and the darker shades of the firs of the forest by twilight hours green of water and soft blue have given a combination of all these combining the various of the hanging webs of the green. I am impressed by the weight of his nature to the picture to the beauty and grandeur of the mountains of Kashmir as to penetrate the forty glaciers and forests, shaded by an air. Much has been written of the magnificent scenery of the town and older valleys and of the general character of the hills but the real beauty of the western side of Kashmir have hardly been described. Few of the rivers are other anything grander than the deep green mountain canyons forming in the Parial range the waters of which cross a wide stream into the lake over the high mountain of the lake while the rolling grassy mountain chains from the high the spring down to the lake making over the winding river as it flows, leading down from the mountains, the long winding path known as the valley and down to the little lake which is called the lake of the valley and the lake with its pretty lake surrounded by the dense forest, are worthy to be seen.

As one descends the mountains and enters the woodland

glades, cultivation commences undisturbed, and right up to the fringe of the forests many a plum and walnut-tree stands. A little lower down, at an elevation of about 7,000 feet, fire of a hardy and woody growth is found, and the shady plane-tree appears. Lower still superior firs are grown, and the undergrowth is edged with willows. The side valleys which lead off from the base of Kashmir through picturesque districts, the character of their soils have stream features in common. At the mouth of the valley into the wide delta of the Jhelum on which he sits with its varying ridges the plane-tree, mulberry, and willows grow luxuriantly. A little higher up the land is terraced and rice still grows, and the slopes are shaded with the wild rhodod. till at about 8,000 feet the plane-tree gives place to the walnut and oak in bushes. On the left bank of the mountain river enclose forests stretch from the foot of the valley to the peaks, and on the right bank, wherever a head of current is sheltered from the sun and the hot breezes of Jammu, the plane and fir reign with luxuriance. Farther up the valley the river already a rushing torrent becomes a variable waterfall dashing down between lofty hills, where haunts are fringed with maple and horse-chestnut, where oak and pine, and oaks are replaced by beech-forest and I return to my Jammu after the usual back track appears, and I am under grass and flowers, the beauty of the countryside.

Derwars

When the rivers no longer in a steep canyon, an entrance with flat and open and wide of trees run in towards the valley. These are known as *derwars*. Sometimes they stand up, ridges in the middle of the valley but whether isolated or attached to the mountains the *derwar* presents the same sterile appearance and offers the same abrupt walls to the valley. The *derwars* are part of the mountain walls and appear with ridges. Barring as much that Kashmir was once a sea, which dried up when nature afforded an outlet at Hiranand, it is easy to imagine in the *derwar* the shivering shores of a great inland sea, and to realize that the mountains of the west show the traces of what can be seen on the hills and in the shape of the mountains had no other home of water were in those days, the present fertile valley was buried beneath a mass of water.

Lake and springs

Kashmir abounds in mountain lakes, mostly small, and numerous lagoons. Of the lakes the Wular, the Dal, and the Manasbal are the most beautiful. There is a warm sulphur spring, many of which are flowing. There are many gardens on the mountain slopes in irrigation and are sometimes the sole

that the old bridges had withstood many a storm. Second, Not long ago, two of the bridges, the Ho San Bridge and the Luau Bridge, had come to almost an end, remaining only of the London Bridge has now been cleared away.

المجلة ١٤٤٤ هـ

The distance by road from Srinagar to Jodhpur is 1111 miles, and the traveler can reach Bhopal at the head of the star lake by boat or by land. The road route which came the Kashmiri near to the first instance of death is a terrible tale of horror and was one of the few new horrors ever mentioned on the Kashmir subject of the island. It was to its conclusion beyond the last of the government were the end by important laborers, many of whom perished in the process, or returned crippled and maimed by frostbite on the way to the city. In the great public road did duty for months in the journey to Jodhpur where they had been and a continued with the journey to Bhopal. Some symptoms are a kind of pain and the number of dead is no longer a secret to the people and the world.

From Hantowen a steep ascent leads to the Xia Lungshan pass. It soon opens a more levelled plain in the winter months, when the cold winds mean death to man and beast. (Having through a beautiful wooded and watered valley just the lovely valley of China have seen the Kiangsangang River, the traveler was not different till he reached the first pass.) In fact, before we reached the mountain top, which is on the west margin of the Jirong plain, there had all in the north end. This is a very short pass in summer but is very dangerous in a succession of high wind.

Following from the forest the whole scene changes. The forest and vegetation of Khandua are left behind; the trees are few and of a strange appearance and the vegetation is foreign. It is a thick and rugged country and when about a 1/2 mile is left the forest of broad-leafed trees. A thing can be more dreary than the steep descent is an Ithang down the side of the and Hamu Pt. up the sterile waste of the Indian range. It is not at Hamu 6,200 feet. It is shifting at Kumbhik: 5,400 feet where one passes over the river. It is a suspension bridge. The old construction was a very wide bridge of eight to the Kashmiri counts who were forced across the river and left to their fate. Years ago it was captured by the slave hunters from the hills. It is a cultivation of Hamu of trees but here is nothing to cheer the natives and the Indians have been crushed by a few bridges and go much further the pleasant case of Hamu is reached.

The Indus valley is a barren desolate country. The very river with its black water looks hot, and the great mountains are destitute of vegetation. The only thing of beauty is the view of the snowy ranges, and Nanga Parbat in the evening can be seen from the crowning of the under river. A light sweep into aboriginal the dreariest desert of sands and rocks. Light (4,500 feet) with a fertile and well watered. The mountains fall back from the river, and leave room for cultivation on the alluvial land bordering the right bank of the Indus river, a rare feature in the northern parts of the Mahratta dominion.

Another route giving a general idea of the country runs from west to east from Kohla on the border to Leh, about 5 miles beyond the Indus. A good road from Kashmir brings the traveller to Kohla, where he crosses the Indus by a bridge and enters the fertile lands of Ladakh and Kashmir. The cart road passes from Kohla to Srinagar a distance of 150 miles, by easy gradients. As far as Baramulla the road is close to the river but for the most part at a great height above it, and the scenery is beautiful. At Muzaffarabad the Jhelum river joins the Indus, and here the road from Srinagar to Leh (about 150 miles) crosses with the Kashmir route. The road runs along the left bank of the Indus, through arid barren mountains, above which are some forests and pastures. It carries a very heavy traffic but owing to the remoteness of the country is little frequented, and is expensive to keep in repair.

From Leh a road runs south to the country of the Rajah of Poonch, the chief boundary of the Mahratta, crossing the Indus pass (1500 feet). At Baramulla the road enters the valley of Kashmir and runs through a continuous avenue of poplars to Srinagar. In bygone days this route known as the Indus valley road was the chief means of communication with India, and was used. The Mahratta and Kashmir who both have the country were a restless and warlike people, and the numerous wars that continued the narrow valley suggest that the only boundary was made for the ordinary traveller. The communication of the road from Kohla to Baramulla cost the State nearly 25 lakhs.

From Srinagar to Leh is 250 miles. The first part of the journey runs up the Indus river, perhaps the most picturesque scenery in Kashmir. Great efforts are made from time to time to improve the important route but it still remains a mere fair weather track. The road river borders down the

valley, and the steep mountains rise on either side. The northern slopes covered with pine trees, the southern bare and treeless. As I compare the track climb along the river bottom to Srinagar 8,650 feet, the old and highest village in the broad valley of the except the small hamlet of Nigitar some 3 miles higher up. Sonamarg is a beautiful mountain meadow surrounded by glaciers and forests. It is a picturesque place in the winter time but it is of great importance in the winter & summer population. The first stages of the valley are green on Tibetan barley and buckwheat. It is good to turn from the baggage ponies to graze on the meadow grasses. For a few days past two one passes over a region like the country beyond the Shivalik on the road to Tibet a land devoid of forests and pastures, a desert of bare rock and granite dust, a barren region always burning or freezing under the clear blue sky. The Zaskar (15,000 feet) is the lowest depression in the great Western Himalayas which run from the Indus valley on the Tibetan frontier. Here this high range the rain from the south hardly penetrates and the cultivation, scanty and difficult depends entirely on artificial canals. The ascent to the Zaskar from Sonamarg is very steep, the descent to the elevated table land of Tibet almost steeper again. For five miles the road follows the course of the Indus river through a desolate country of piled up rocks and barren gravel. A magnificent bridge of Tibetan stones the Indus river by a continuous bridge, a single stone the junction of the Indus and Jhelum rivers, and about 5 miles further on the Indus crosses these waters. But the steep cliffs of the Indus also as part of the region and the rock leaves the Indus river, and turns to a southern direction to Kargil, a delightful name. Then the road abandons the valley and ascends the bare mountains. The desert scene, a compressed by the barrenness of the blue sky and the day bearing no trace of the world of India. Through gorges and defiles the hills of Shivalik is reached the first Buddhist village on the road. Thenceforward the country is Buddhist and the road runs up and down over the Namika (11,000 feet) and over the Fort (13,000 feet), the highest point on the Leh road. Along the road near the villages of Buddhist monasteries, many walls of praying stones and shrines where the ashes of the dead mixed with clay and moulded into a little idol are placed and at Lamayara there is a wilderness of monuments. Later the Indus is crossed by a long continuous bridge and the road runs along the right

bank through the fertile corn of Khasi, then through the
 grassy desert with an occasional patch of vegetation to Loh
 (10,000 feet) the capital of Western Tibet and of Eastern
 Bhutan, and the trade terminus for caravans from India
 and from Central Asia. It is a long and difficult road from
 Loh to Yarkand, all miles, over the Khardung La, the Namu
 La, and the Karkorin, two of between 15,000 and 16,000 feet
 altitude where the natural yak (*Asa grassensis*) shares the
 power of these loads when fresh snow has fallen, or upon
 sudden up country a path for the porters.

A level desert clear and bright with a clear view of the many Loh-
 mountains (has) between the rivers and (over) the mountains (the
 river from Loh through Bhutan to Assam on the right road
 to Khasi, where the caravan which carries the Indian, the
 track keeps to the right bank of the river, and ~~passes~~ down
 the deep gorge of the river comes to a point where the
 steepness stills and the roaring current prevents further pro-
 gress. Then the caravan strikes away from the Indian and
 ascends the mountains to the Khardung pass (15,000 feet),
 a road with upon even in 1901 from the pass across the
 valley of the Nyok river, the great Karkorin range came to
 make away from the river. An abrupt descent across the
 traveller with much snow had to make a road by a difficult track
 which is placed a good way along the face of the hill is hard
 travelling. First, for many, the course of the hill is most
 roughly flowing between with a series of gorges, and passing
 many pleasant spots, we came to the grateful garden of
 Khasi, a corner in the sun, a flat. Crossing, in usual
 water of the Nyok and the Indian on a small stream, the
 traveller arrives at Wadda (15,000 feet), the old capital of
 Bhutan. Here the mountains on either side of the Indian
 river and the sandy basin about 5 miles in breadth, is
 partially irrigated by water from the great mountain lake of
 Salpara, and carries a river. Crossing across the Indian to
 the north the Nyok valley, the garden of Bhutan with its
 wealth of fruit trees is seen. I saw the white and black
 river, a by washing ground from the sands of the river. From
 Wadda the direct route is a good track to the Indian, which is
 crossed at Khasi, by a river, under no long, as to the road trying
 to the river, but a far more hard track over the Khardung
 leads the traveller on the right road to Assam.

It is difficult to give a general idea of a country so diversified
 as Khasi and Jammu. As will be seen in the picture in
 India, a stranger coming has to fight people of distinct races.

languages, and religions, and varieties of widely different physical characteristics under the rule of the Marathas.

Mountain
and river
systems.

The Kashmir territory may be divided physically into two parts: the north-eastern, comprising the area drained by the Indus with its tributaries, and the south-western, including the country drained by the Jhelum with its tributaries, the Rihanganga, and by the Beas. The dividing line of watershed is formed by the great central mountain range which runs from Nanga Parbat, ascending to the north in the north-west, in a south-eastern direction for about 250 miles till it enters British territory in Lahul.

South
western
area.

The south-western area may be following the northern portion of Mr. Drew's theory be geographically divided into three sections: the region of the upper Indus, the middle mountains, and the Kashmir Valley.

Description.

Approaching Kashmir from the plains of the Punjab, the boundary is first at the foot of the Himalayas, and continues a strip of the great plains from 5 to 15 miles wide, then 15 miles or less to the Indus. As is generally the case along the foot of the Western Himalayas, the tract of flat country is narrow, and and immediately set up by various outcrops of the fluted slopes of the mountains. A low amount of cultivation is found on the plateau between these various "hills," being entirely dependent on the rainfall, the wind is generally from the north. The height of the tract may be about 4,000 to 5,000 feet above sea-level.

Passing over the plain a region of barren ground and low hills is reached, extending between ridges, situated to the general line of the Himalayan chain. These vary in height from 2,000 to 4,000 feet and are all composed of gneiss and lying in fact a continuation of the North group, as far as the ridge between these parallel ridges are a series of ridges or domes, fairly well populated on the surface by forests and in the west by shrubs. A few hills are sparsely covered with low scrub bushes, the *Alnus longifolia* gradually predominating as the mountains are reached. Between the latter hills is a square of a mile or more, and a

The
middle
mountains.

The scope of the region as defined by Mr. Drew has been somewhat extended in the west to range which forms the southern boundary of the Kashmir Valley, known as the Banihal ridge, and its continuation eastwards beyond the Beas. This tract is about 60 miles long and varies in width from 25 to 55 miles. The portion lying between the Indus and Chitral is formed by the mass of numerous spurs running

down from the high Pangal range which forms its northern limit. The Pangal range, extending from Wadialashid on the Jhelum to near Kisquetu on the Chumbul, is a massive mountain range, the highest central portion of which the name is readily applied having a length of 60 miles, with peaks rising to 4,000 and 15,000 feet. On the southern side a series of spurs branch out, which break up the ground into an irregular mountain mass cut into by ravines or divided by narrow valleys.

The elevation of these middle mountains is sufficient to give a thoroughly mountainous character to the region. Forests of Himalayan oak grow sparse silver fir and *deodar* is very a great part of the mountain slopes, the rest the more sunny parts, where forest trees do not flourish, is, except where rocks jut out, well covered with herbage with plants and flowers that resemble those of Central or Southern Europe. East of the Chumbul river there is a somewhat barren tract of hills forming the north of Kisquetu with peaks rising from 4,000 to 14,000 feet in height. These alternate in the high range which forms the Chumbul and Kisquetu watershed or divide.

The high western end of the south western area bears a striking character, the Himalayan, consisting of an upper valley, a considerable extent of it, completely surrounded by mountains. The mountains are formed on the north-east by the great Pandu range which separates the Jhelum and Indus drainage and on the south by the Pangal range already described. The eastern boundary is formed by a high spur of the main range which branching off at about 12,500 ft. runs nearly due north, its peaks reaching an elevation of from 12,000 to 14,000 feet. This spur range forms the watershed between the Jhelum and Chumbul, separating the Kashmir from the Hindukush valley. It extends 12 miles and bounds with the Pangal range about 17 miles west of Kisquetu. On the north and west the mountain ranges of the valley are more difficult to describe. A long ridge west of the spot from which the eastern boundary spur branches west to Kisquetu, another minor range is given off. This runs nearly due west for about 60 miles at an elevation of from 12,000 to 13,000 feet with a width of from 15 to 20 miles. It forms the watershed between the Jhelum on the south and its important tributary the Kishanganga on the north. The range of the hills the ridge gradually winds round on the south and reaches the Jhelum stream at the western end of the Pangal range. The valley has enclosed

has a length measured from ridge to ridge of about 15 miles with a width varying from 2½ to 3½ miles, and is drained throughout by the Indus with its various tributaries. The flat portion is much restricted, being in the space given off by the great steep ridge which runs down into the plain, forming the well-known Hind and Liddar valleys. On the northern side the space from the Kamoh range projects in to 2½ miles above the plain.

North-
ern
slope

The north-eastern sector is comprised between the great central hump to the south and the Karakoram range and its continuation to the north. It is drained by the Indus and its great tributaries, the Shival, the Zaskar, the Suru, and the G. 100 rivers. The chief characteristic of this region, more especially of the eastern portion, is the great altitude of the spurs and plains. The elevation of the G. 100 and Liddar rivers is 2,000 feet above sea level. Proceeding upstream the slope further east at the confluence of the Shival and Indus the level of the latter is 3,000 feet, opposite Loh 150 miles to the west, the river is higher at 10,000 feet, while near the Kashmir Tibet boundary in the Kishtnow district the river runs at the great height of 15,000 feet above sea level.

Between the various streams which drain the country the ranges of mountains, those in the central portion attaining an elevation of 8,000 to 10,000 feet, while the range flanking western of the Karakoram is bounded on the great peak (east of Anantnag) at 15,000 feet. The difference of the level in the valleys between the eastern and western sectors has its natural effect on the scenery. In the east as in the Kishtnow district of Ladakh, the lowest ground is 12,500 feet above the sea, while the surrounding run very evenly to a height of 10,000 to 11,000 feet. The result is a series of long open plains, bounded by well-proportioned low hills having very few of the characteristics of what is generally termed a mountainous country. To the west as the spurs deepen, while the bordering mountains keep at much the same elevation, the character of the country changes, and assumes the more rugged Himalayan type, with massive ridges and (as is fairly well seen) the deep valleys between.

South-
ern
slope

The sector which comprises to the west of the great mountain range rising directly above the Indus, of which the culminating peak is Nanga Parbat. From this point it runs in a south-easterly direction, forming the watershed between the Indus and the R. 100. It goes up to an altitude of 14,000 to 15,000 feet at which it continues for 50 or 60 miles. It is crossed by several passes, the best known of which are

the Huala on the road from Kashgar to Chigai, and the Zuo La of 11,300 feet, over which runs the road from Yining to Urumqi and Loh. From the Zuo La the mountains rapidly rise in elevation, the peaks attaining an altitude of 8,000 to 10,000 feet, culminating in the Nam Kuo pass which rises to a height of over 15,000 feet. Owing to these altitudes these mountains are under perpetual snow and glaciers form an every where. The range keeps this character throughout Kashmir territory for a distance of 30 miles to the Mark Isha pass where it passes into Spiti.

The Karakoram range is of a far more complicated character. Broadly speaking it is a continuous wall of the Hindu Kush and forms the watershed between the Central Asian drainage and the streams flowing into the Indian Ocean. From its broad ridge (only spurs extend into Kashmir) separating the various territories of the Indian, the range being a stupendous mountain mass 200 miles long, with a width on the north side of the watershed of 50 to 100 miles, with peaks averaging from 11,000 to 15,000 feet, culminating at the west in the well-known Ladakh range, north of Lohit, and 15,100 feet high, and in the mighty group of peaks round the head of the Hindu glacier dominated by the actual highest mountain in the world, Mount K2, whose summit is 28,195 feet above the sea. The head of every valley in the north is a glacier. Many of these are of enormous size such as the Hindu the Zaskar, and Hindu glaciers, the two latter having an unbroken stretch of ice over 50 miles long. The great mountain barrier is broken through at the point by the Hindu stream a tributary of the right river (the watershed at the head of which has the comparatively low elevation of about 15,500 feet). The well-known pass has 100 miles to the east, where the road from Loh to Yarkand leads over the Karakoram pass at an altitude of about 18,000 feet.

A description of the mountainous region would be incomplete without a reference to the vast elevated plains of Pamirs, which lie at the extreme north-west end of Kashmir territory. These plains are great plateaus rising to the great Tibetan plateau. The ground here is from 10,000 to 15,000 feet above the sea, and each run as in a drain into a series of spurs. Of vegetation there is little or none, the country being a desolate expanse of earth and rock. The northern border of this plateau is formed by the Kunlun mountains, the northern base of which slopes down into the desert of Khotan.

An account of geology will be found in the chapter on Geology.

Mr Richard Lydekker *The Geology of the Kashmir and Chamba Territories and the British District of Jhagun*. Mr Lydekker differs from Mr Drew also an expert in geology who held that some of the gravels at Haramola were of glacial origin, indicating the existence of glaciers in the valley at a level of 5,000 feet but he has no doubts as to their existence on the Pir Panjal range and in the neighbourhood of the various margs or mountain meadows which surround the valley. The question of the glaciation and the evidences of relative changes of level within a geologically recent period is fully discussed for the Sind valley by R. D. Oldham in *Records Geological Survey of India*, vol. xxix, part 3.

There is abundant evidence that igneous or volcanic agencies were actively at work, as is proved by the outpouring of vast quantities of volcanic rocks but these are not known to have been erupted since the Eocene period. Subterraneous thermal action is, however, indicated by the prevalence of numerous hot springs. The burning fields at Sonam, of which an account is given by Lawrence, *Valley of Kashmir*, pp. 42-3, point to the same conclusion, and the frequency of earthquakes suggests subterranean instability in this area.

The following table of geological systems in descending order is given by Mr Lydekker for the whole State —

		Stratigraphic Sequence
<p>Alluvial system</p> <p>Low level alluvia, etc. Proboscic.</p> <p>High level alluvia, gravel, lacustrine, and Agarwa series. Fluvio-lacustrine.</p>		
<p>Tertiary system</p>		
Sivalik series	Outer Inner	Pliocene
Siwalik series	Martini group Nalanda group	
	Indus Terraces	
<p>Fluvial system</p> <p>Chitkani series Cretaceous</p> <p>Sagar-Ka-ming series Tertiary and Triassic</p> <p>Kuling series Carboniferous</p>		
<p>Psalji system</p> <p>Not generally subdivided Silurian</p>		
<p>Metamorphic system</p> <p>Metamorphosed Psalji, etc. Palaeozoic and</p> <p>Central gneiss Archean.</p>		

Under the first of these systems, Mr Lydekker has discussed

are sometimes seen. Geese are found in vast flocks on the Wular Lake in the winter, and there are at least thirteen kinds of duck. The gooseander and snipe are also found on the Wular Lake. There are six species of eagles, four of falcons, and four of owls. Kingfishers, hawks, bee-eaters, night jays, vultures, ruckons, woodpeckers, parrots, crows in great variety, thrushes, starlings, urdues, larks (12 species), buntings, jacks, wag-tails, creepers, etc. shrikes, warblers (14 species), thrushes (10 species), jays, etc. including thrushes, bulbuls, flycatchers, and swallows are all familiar birds.

Among the reptiles there are two poisonous snakes, the *Gundi* and the *Sular*, the bite of which is often fatal.

Fish forms an important item in the food of the Kashmiris. Vigne notices only six different kinds, but Lawrence enumerated thirteen.

As the elevation varies from 1,500 feet at Jammu and 3,000 ^{Temples} feet in the Ladak valley at Bampur and 14,000 to 25,000 and 28,000 feet on the highest mountain peaks, the State presents an extraordinary variety of climatic conditions. The local variations of temperature depend chiefly upon situation (i.e. whether in a valley or on the crest of a mountain range), elevation, and the amount of the winter snowfall and the period and depth of the snow accumulation. The effect of position in a valley or a mountain crest is shown by comparing the temperatures of Murree and Srinagar. The Murree observatory is about 1,500 feet higher than the Srinagar observatory. The mean maximum day temperature in January at Murree is 7° higher than at Srinagar and the mean minimum night temperature 4° higher. On the other hand, in the hottest month (June) the maximum day temperature is 2° lower at Murree than at Srinagar while the minimum night temperatures are almost identical. The diurnal range is 3° less in January 7° less in June and 14° less in October at Murree than at Srinagar. The slow movement of the air from the higher elevations (40 to 54 hrs. time at low rates) is due to its by mountain winds to depress temperature at lower stations both by day and night considerably below that at similar elevations on the crest of the Outer Himalayas, and to increase the diurnal range most largely in the dry cold months of October and November when the sinking down of the air from the adjacent mountains has its greatest effect, and is supplemented by rapid radiation from the ground. The effect of snow accumulation in raising a body's temperature is very marked. At Lard and Sotahung, where the accumulation is usually large, the

polar heat. A clear fine day in winter is utilized in melting the snow and hence exercises no influence on the air temperature. At night, where the ground is only occasionally concealed under a thin covering of snow the sun even in winter usually warms the ground surface directly and thence the air. The varying influence of snow accumulation on lakes and lowlands is largely increased by the rapid adjustment from the surface. The mean daily temperature is lowest in January and highest in June & July. At Srinagar the mean temperature of January is 33.1° . The mean temperature of the hottest month (June) at Srinagar is 74.6° . The mean temperatures in January and August range from 34.3 to 74 at Suleika, from 34 to 64.1° at Dera, from 33.7 to 64.6° at Jath, and from 31.8 to 61° at Gupth. The most remarkable feature of the annual variation is the very rapid increase in March or April at the end of the winter and an equally rapid decrease in October, when the snow clears after the southwest monsoon. The diurnal range is about 40 to 48° and Srinagar 30.4° at the middle of the year and greatest at Dera 35.4° and Jath (36.3°).

Rain and snowfall

The precipitation is received during two periods, the cold season from November to April, and the south west monsoon period from June to September. The winds in October and November is small in amount and November is usually the driest month of the year. The maximum rainfall is from December to March is chiefly due to storms which are drawn from Persia and Russia via arctic & northern India. These disturbances occasionally give very stormy weather in Kashmir, with violent gusts on the higher elevations and much snow. The fall is large on the lower ranges being heaviest in January & February. In the valley and in mountain ranges in the north and east that is the chief precipitation of the year and is very heavy on the first line of permanent snow but decreases rapidly eastwards in the Karakoram range. The largest amount is received at Srinagar 144.5 and Sarnadi in January. In the Karakoram region and the Tibetan plateau the winter has is much later than on the outer ranges of the Himalayas, namely from March to May and the maximum is received in April. The average depth of the snowfall at Srinagar in an ordinary winter is about 6 feet. The annual at Sarnadi in 1902 measured 17 feet and in 1903 about 10 feet. In April and May disturbances are of a seasonal occurrence in the valley and surrounding hills bringing with the moderate showers of rain. This hot season rainfall is of con-

siderable importance for cultivation in the valley. From June to November heavy rain falls on the Pir Panjal range, and in Jammu chiefly in the months of July, August, and September. The rainfall at Jammu and such a comparison with that of the submontane forests of the Punjab. It is more moderate in amount in the valley which receives a total of 94 inches, as compared with 317 inches at Peshawar and 108 inches at Lahore. The precipitation is very light in the east of the first line of the snows bordering the valley on the east, and is about 2 inches in total amount at Udhampur, Kathua, and Leh. Thus the south-west monsoon is the predominant feature in Jammu and Kashmir, while in Ladakh, Gilgit, and the higher ranges the winter snow precipitation is more important. The tables on p. 82 show the average temperature and rainfall at Srinagar and Leh for a series of years ending with 1905.

Earthquakes are not uncommon, and eleven accompanied with loss of life have been recorded since the sixteenth century. In 1813 shocks were felt from the end of May till the middle of August, and about 3,500 people were killed. Fissures opened in the earth, and avalanches occurred. Floods are also frequently mentioned in the histories of the country, the greatest following the obstruction of the Jhelum by the fall of a mountain in 1712 A.D. The great flood of 1841 in the Indus caused much loss of life and damage to property. In 1893 very serious floods took place in the Indus valley, the continuous rain for 52 hours, and much damage was done to Srinagar. An inundation of a yet more serious character occurred in 1903.

The early history of Kashmir has been preserved in the celebrated *Rajatarangin*, by the poet Kalhana, who began to write in 1148. He gives a connected account of the history of the valley which may be accepted as a trustworthy record from the middle of the ninth century onwards. Kalhana's work was continued by Jivara, who brought the history through the troubled times of the last Hindu dynasties, and the first Muhammadan rulers to the time of the great Zain-ul-Abidin who succeeded he himself in 1420. Another Kashmiri chronicler, Nizama, carries in the narrative to the accession of Faiz Shah in 1430, and the last of the chronicles, the *Rajavatsavata*, brings the record down to 1530, when the valley was conquered by Akbar.

The current legend in Kashmir relates that the valley was once covered by the waters of a mighty lake, on which the

goddess Parvati sailed in a pleasure boat from Harimoh's mountain in the north to the Kinnerag lake in the south. In her boat the lake was known as the *Saras* or lake of the virtuous woman. The country side was harassed by a demon, popularly known as *Asura*, a corruption of Jaudahava. At length, the goddess of Harimoh came to the rescue, but for some time the angry boat demon eluded her, being under the water. At length they intervened and struck the mountains of Harimoh with his trident. The waters of the lake rushed up but the demon took refuge in the air ground some where betwixt both Harimoh and Juddah parvat. Then Parvati cast a mountain on him and so destroyed the wicked Jaudah. The mountain is known as Harimoh parvat, and from ever since then the goddess has been worshipped on its slopes. When the demon had been trampled, men visited the valley in the summer, and as the winter became colder they returned for the winter. Later long towns sprang up and the hills were quarrelled among themselves, with the usual result that a bigger king was called in to rule the country.

city
temples

The *gyanotsogyal* opens with the name of the glorious king of Kashmir, *Lotsavalu*, worshipped by the people which Kashmir light up, and which the young young ladies with a soft garment. Nothing is known of the founder of the dynasty though the genealogists of Jammu is a direct descent from *Asurika* to the present ruler. Meru is said to be the point of origin and at his tomb, betwixt both its quality as lake of Jammu surrounded with wealth. This town probably stood in the neighbourhood of the Takh Naiman. Next come the three kings, *Husha*, *Tusha*, and *Kanishka* to be identified with the *Husha*, *Yashava*, and *Kanishka*, known rulers of Northern India at the beginning of the Christian era. According to the chronicles, in the days of these kings Kashmir was in the possession of the Buddhists, and Buddhist traditions assert that the third great council held by Kanishka took place in Kashmir. The Buddhist creed and the *Abhidharma* set upon to have entered Kashmir's side he said, but few hundred years later Huen Tsang heard the mass of the people Huen and the missionaries were and partly destroyed. There is great reason to believe that the Kashmiris were, from the earliest period, chiefly Buddhist.

White
Himal

From A.D. 120, Mahabala the king ruled in death ruled over Kashmir. He was the leader of the White Huns or Ephthalites. The people was poor to a degree on the 12

Farjil range Kashmir where the king to assist himself, drove one hundred elephants over the pass, mowing the crops of agave. King *Amshirwa* was a jealous enemy to the great king, and did much to raise the *Arakkans*, and to advance their interests.

Prasanna II reigned in the sixth century and, according to his inscription, *Amshirwa* should have a magnificent city on the site of the present capital of Kashmir. The city was known as *Pratapura*, and is mentioned by *Huen Tsang* at the time of his visit (A.D. 630) as the new city. The new chosen has many advantages, strategic and commercial but it is better to perish. Many *Amshirwa* were constructed to prove the site of the capital but none were built. Among them was the stupa built in the year of the death of the eighth century and received an inscription from an emperor of India. A great and victorious emperor he subdued the kings of India and subdued Central Asia. After twelve years of successful campaigning he returned to Kashmir, enriched with spoil and his kingdom he received from various countries, and built a magnificent city *Paragana* (*Paragana*). To give his new town the name of the great king *Prasanna* II. *Amshirwa* also built the stupa temple of *Shivara*. Before leaving for his last campaign in Central Asia from which he never returned, the king gave his subjects a last piece of advice. He warns them against martial pride, and says that if the forts are kept in repair and garrisoned they need less to be. In a country that is to be maintained, discipline must be strict and the soldiers must not be left with grain more than sufficient for a year's requirements. Little more should not be allowed to have more, though or little than are absolutely necessary or they will increase in their neighbouring fields. They should be recruited, and their style of living must be longer than that of the city people or the upper and lower. These words spoken some 500 years ago have never been forgotten, and rulers of various faiths and religions have taken of *Amshirwa*'s words and have strictly substantiated the interests of the subjects to the benefit of the city.

Sanskara Varman (811-821) was another great conqueror and it is stated that though Kashmir had fallen off in population, he was able to raise an army of 50,000 foot, 10,000 elephants, and 10,000 horse. *Sanskara Varman* was ambitious and pious. He plundered *Paragana* in order to raise the same of his own town now known as *Jattan*.

Decay of
Hindu
dynasty

There were signs of decay and the last of the strong Hindu rulers was Jishnu Datta (c. 1030). Then followed the Lohara dynasty. Central as well as weakened, the country was a prey to civil war and violence, and the Parmars, skilled in burning, plundering, and burning, harassed the valley. The last of this line was Jata Susha, or Jata Thera (c. 1130) and in his reign the Tartar K. An Lakshmi, invaded Kashmir, and after great slaughter set fire to Srinagar. He subsequently perished in the flames on his return from Kashmir overtaken by snow. (K. Lakshmi) the commander in chief of the Kashmir Army had meanwhile kept up some semblance of authority in the valley and had resisted the Ladakhs from Kush war. With him (K. Lakshmi) were two soldiers of fortune, Maichian Shah from Tibet and Shah Miran from India.

Progress of
Islam in

Kashmir Shah quarrelled with K. Lakshmi and with the assistance of the Ladhuis attacked and killed him. He married Kula Kirti, the daughter of K. Lakshmi, and afterwards (c. 1150) became the first Muhammadan king of Kashmir. One day after a short reign of two and a half years. At this juncture Loharadeva appeared, who was the brother of K. Lakshmi's son and had fled to Kishtwar. He married the widow, Kula Kirti, and reigned for fifteen years. On his death Kula Kirti assumed power for a short time and carried on more wisely than many Shah Miran, who now became himself king. He was the first of the line known as Sultans of Kashmir and took the name of Shams-ud-din. In 1190 Sultan Shams-ud-din known for his force and as a defender of Islamism, was king of Kashmir. He was a gluttony for power and destroyed nearly all the great buildings and temples of his Hindu predecessors. To the people he offered death conversion or death. Many fled, many were converted to Islam, many were killed, and it is said that hundreds of the seven mosques of sacred shrines were by the murdered Brahmins. By the end of his reign all Hindu religious plants of the valley, except the Brahmins, had probably adopted Islam.

Moham-
medan
rule.

In 1200 Zain-ul-Abidin succeeded. He was more virtuous, and frugal, and very tolerant to the Brahmins. He removed the politics on Hindus, encouraged the Brahmins to learn Persian, repaired some of the Hindu temples, and revived Hindu learning. Muhtasib in Kashmir Sanchari had been written in Sanskrit, an older sister of the Theravada character. The introduction of Persian as the official language divided the Brahmins into three subdivisions: the Kshatriyas, who

entered official life the Bishkharis, who discharged the functions of the priesthood and the Parnis, who devoted themselves to Sanskrit learning. Towards the end of the good and merry reign the Chakks sprang into machoerous prominence. Jamun Ader drove them out of the valley but in the time of his weak successors he returned and eventually secured the governments of Kashmir. In what and how, the Chakks were not faced in administration. Khub Khlu, the last of the line, offered a stubborn resistance to Ashaf, and with the help of the Bishkharis and Khakhils routed the Mughal on his first attempt on the valley (1518). But later, not without difficulty and some reverses, Kashmir was finally overruled (1525).

Ashaf built the valley three times. He built a strong fort on the slopes of the Harb Parbat paying high wages, and dispensing with forced labour. His reserve minister, Istar Mad, made a very summary record of the Ashaf's activities of the valley. Ishangir was greatly attached to him and he had not merely pleasure gardens around the Ashaf lake were 777 gardens, yet not a corner of a wall from stone and had most black decorated in the character of the g overnors. At Mardan Khan, he met of him that a specimen of it of seven or he the Parbat route to India and go along with a house with energy and success. Ashangir visited the valley only once but in that first time he showed his real against the water works, had the system was operated by the Bishkharis. Then however, the disorder of the Ashaf and in 1525 the Ashaf of Kashmir was put to independence of India.

From the following year the Ashaf Ashaf Kashmir captured the Ashaf captured of Ashaf rule the Ashaf but even proved of the function. Government from Kashmir plundered and tortured the people and the Ashaf Ashaf but however their most culture for the Bishkharis, the Ashaf Ashaf the Bishkharis of the Ashaf Ashaf. In these years the Ashaf of Kashmir turned with hope to the rising power of Rana Singh of Lahore. In 1514 a high army movement by the Rana Singh Rana Singh was being the operation from India. The expedition movement for in 1514 Rana Singh Ashaf Rana Singh a great general, accompanied by Rana Singh of Ashaf, overcame the Ashaf Ashaf and entered Ashaf. In comparison with the

The Mughals.

The Ashaf Ashaf Ashaf.

* Kashmir had been attacked from the side of Ashaf by Shah Rana Ashaf Ashaf the Ashaf Ashaf and again divided from the north in 1514 and was in the Ashaf Ashaf in the Ashaf Ashaf and the Ashaf Ashaf Ashaf.

Afghan, the Sikh came as a relief to the unfortunate Kashmiris, but their rule was harsh and oppressive.

Silver Singh, the renowned son of Karri Singh, was a weak governor and his name is remembered in connection with the terrible famine which visited the valley. The best of the Sikh governors was certainly Mal Singh (1811), who is remembered with gratitude and who has been in regard the saviour of the valley. He was overthrown by mutinous soldiers, and was succeeded by a Sikh chieftain Mal Singh, who died in 1823. During his government the Muziris, under Sher Shima, suffered great losses on the Indus. In 1823 Jagan Lal Singh succeeded his father as governor.

The history of the State, as at present constituted is practically the history of our man, a Hindu Rajput, Gurm Singh of Anand. Among all the highlands of India, and away from the fertile plains of the Punjab, the barren hills of the Himalayas had not attracted the interest of the Moghul invaders of India. There lived a number of small Rajas, of it appears that there were even among the little kingdoms of Anand was known of some importance. Towards the end of the eighteenth century the power of the Jammu ruler had extended east as far as the Ravi and west to the Chenab, but the power waned and waned according to the fortunes of petty and local warfare. To the east of Bhamb and Kathmandu were independent Rajput chiefs, while to the north-west were the Mohammedan rulers of Peshawar and Lahore, descendants of Hindu Rajputs. These two states lay on the Moghul route to Kashmir and so came under the influence of the Moghuls. The Jammu valley the country was ruled by small independent Mohammedan chiefs, whose title of Raja was, as these Hindu Rajas.

About the middle of the eighteenth century Rana Bahadur was the ruler of Jammu. He was a man of war and a good but capricious ruler. But in his death struggle his sons were soon engaged and the valley was divided, and Jammu was plundered. From Ranjit Singh's death to 1819 the Dogra country was under tributary to the Sikh power. Gurm Singh, Dhillon Singh, and Nihal Singh were the great governors of Gurm Singh, youngest brother of Ranjit Singh. They were subjects of fortune and as young men sought service at the court of Ranjit Singh of Lahore. They equally distinguished themselves. Gurm Singh for his services in capturing the Raj of Malpur, who was ruling the valley, was made Raja of Jammu in 1820. Dhillon Singh obtained the principality of Pothohar, a large country between the Jhelum and the

The
The
The
The

Jammu

Punjab range north of Rajpoot while Suchet Singh received Rannagar west of north of Jammu.

Kanhi Singh had found that the control of the Punjab country was a difficult task, and his power of extending the services of able Punjabis was at once obvious and gradual. The country was divided, each man plundered his neighbor and Gulab Singh's energies were used to the utmost in restoring order. He was a man of unscrupulous power, and very quickly secured his authority. His methods were often cruel and overbearing, but allowances must be made. He believed in object lessons, and his penal system was at any rate successful in reducing the number of robbers. He kept a sharp eye on his officials and a close hand on his resources. He was shortening the power and possessions of the feudal chiefs around him, while ten years of laborious and consistent effort, he and his two brothers became masters of nearly all the country between Kashmir and the Punjab, were Rajpoot. Bhadarwah fell easily into the hands of Gulab Singh after a slight resistance. In Kashmir the mountain Wachi tribe, who allied with the Rajpoots and sought the assistance of Gulab Singh when all other means failed, and he Rajpoots succeeded in conquering without fighting.

His many successes at Kashmir which commanded the ^{approach} of the route into Ladakh probably suggested the acquisition of Ladakh. The idea of the conquest of this unknown land. The difficulties of access offered by mountains and glaciers were enormous, but his brave Punjabis under Gulab Singh's able leadership Singh were determined and in two campaigns the whole of Ladakh passed into the hands of the Jammu State. It is interesting to notice that the Punjabis did not pillage the rich monastery of Harnam, which saved itself by allowing the army on agreement of its territory to pass the gorge leading to the Harnam valley and by then sending a deputation with an offer of free garison when an Ladakh force was sent. The agreement made was respected by both parties.

A few years later in 1840 Zindas Singh invaded Bhadrachal, captured the Rajpoot who had sided with the Ladakhis, and annexed his country. The following year 1841 Zindas Singh while attacking Tibet was overtaken by winter and was attacked when his men were disheartened he fled pursued with nearly all his army. Whether it was prison or whether it was accident he 1840-1841 Singh had remained Kashmir.

In the winter of 1841 war broke out between the British Government and the Sikhs. Gulab Singh continued to hold himself aloof from

at the battle of Salsuan in 1526 when he appeared as a useful mediator and the trusted adviser of the Henry Lawrence. Two treaties were concluded. By the first the State of Ladakh handed over to the British an equivalent for the cession of exclusively the full suzerainty between the twenty hills and the Indus by the second the British made over to Gulab Singh for 75 lakhs of the Rupee an extraordinary sum in addition to the rest of the Indus and west of the Indus. Kashmir for that, however, came into the Maharaja's hands without fighting. In 1530, the Sikh government aided by the British, kept the Maharaja from the Indian side, against Gulab Singh's troops on the outskirts of Srinagar during Wazir's rebellion. During, however, on the mediation of the Henry Lawrence, the Maharaja's demands were rejected and Kashmir passed without further disturbances to the new ruler. At Anant and Gilgit the Dogra troops received the King, Nathu Singh, the Sikh commander taking service under Gulab Singh. A short while after the British Raj occupied Gilgit territory. Kashmir was not at all by leading a force to attack the Hunza valley, he and his force were defeated and they fell into the hands of the Hunza Raj along with Poonch, Jhelum, and Chitral. The Maharaja sent the troops into both Anant and now from Baramulla, and after some fighting Gilgit fort was recovered. In 1532, partly by strategy partly by treachery, the Dogra troops were again aided by the Government and Kashmir of Jhelum, and the right bank of the Indus formed the boundary of the Maharaja's territories.

Heard
Singh

Gulab Singh died in 1537 and when his successor Ranjit Singh had recovered to in the north, aided by the British, in which he had been engaged with the British, he determined to recover Gilgit, and to re-establish the reputation of the Dogra Raj in the north. In 1538 a force under Ranjit Singh crossed the Indus, and advanced on to the Kashmir's strong fort at Gilgit. Upon Ranjit Singh had died just before the arrival of the Dogra. The fort was taken and when then the Maharaja of Jammu and Kashmir have helped, to their heavy cost, and without doubtful advantage.

Ranjit Singh was a model Hindu devoted to his religion and in his mind learning his tolerance to other gods. He was in many ways an enlightened man, but he lacked his father's strong will and determination, and his control over the State of the was weak. The latter part of his life was darkened by the domestic lameness of Kashmir in 1539, and in September 1545, he was succeeded by his eldest son, the present Maharaja

small detached wing on each side of the entrance the whole standing on a large quadrangle surrounded by a colonnade of eight colonnades with intervening (or intervening) recesses. The length of the outer side of the wall, which is black, is about 50 yards, that of the roof is about 15 yards. The central hall was 16 by 16 feet in length by 16 feet in width and, some of all the temples of Kashmir preserve in addition to the cell a sanctum a clear and have termed in Sanskrit the *antarala* and *ardhamandapa* the nave is 16 feet square. The sanctuary above is left entirely bare the two other square rooms being used with rich paintings and sculptured carvings. As the main building is so perfect scarcely damaged, the original form of the roof can be determined only by a reference to other temples and to the general form and character of the various parts of the Maratani temple itself. It has been conjectured that the roof was pyramidal and that the four great chambers and wings were similarly covered. There would thus have been four distinct pyramids, of which all over the great chamber must have been the tallest, the height of its pyramidal above the ground being about 14 feet.

The western must have been as imposing as the eastern. On ascending the flight of steps, now covered by ruins, the visitor entered a highly decorated chamber with a doorway on each side recessed by a pediment, with a trefoil-headed niche containing a bust of a Hindu god and on the flanks of the main entrance as well as on each of the side doorways, were panels and niches, each of which held a statue of a Hindu deity. The interior of the temple is so thoroughly so that it is not possible to be any ornamented stones that remain with certainty be assigned to it. James Hugh Smith that Maratani ever had a roof but as the walls of the temple are so standing, the numerous heaps of large stones that are scattered about on all sides suggest the idea that these belonged to the roof. Ferguson, however, thought that the roof was of wood.

Parvati

Parvati lies about 14 miles from Srinagar under the Kailash mountain about 6 miles from the left bank of the Jhelum river (on the south side of the village Srinagar) in a small green space just by the bank of the stream surrounded by a few walnut and willow trees, stands an ancient temple which in its form and beauty and elegance of outline is superior to all the existing remains in Kashmir of similar dimensions. Its excellent preservation may probably be explained by its being so situated at the foot of the high Kailash mountain, which separates it by an interval of

enumerated there in 1901 compared with 111,515 in 1881. Statistics of age are, as usual, unreliable and need not be referred to in detail. In the whole State there are 582 females to 1,000 males, the proportion being highest in the frontier tracts 900 and lowest in Kashmir province (876). These results point to defective enumeration of females. Marriage is comparatively late and less than 1 per cent of the male population between 15 and 20 and 1 per cent of the female of the same age are married. Taking the whole population, 55 per cent of males and 39 per cent of females are married. Polygamy is prevalent in Ladakh. About 34 per cent of the population speak Kashmiri and 19 per cent Shugri while Pundit is the tongue of nearly 30 per cent. A great variety of languages are used in various parts of the State, by such parallel small numbers. Agriculture occupies 34 per cent of the total, and rearing animals and birds 2 per cent.

Kashmir.

The total population amounts to 34,715. Brahmanas, 685,071 (Hindus 25,118 males, and 31,247 females). The Hindus are found chiefly in the Kashmir province where they form rather less than half the total. In the Kashmir province they represented only 300 in every 10,000 of population, and in the frontier territory of Ladakh and Baltistan only 97 out of every 10,000 persons.

Castes in Jammu.

Among the Hindus of the Jammu territory, who number 624, the most important are the Bhatiyas, 100,000, the Bhatiyas, 100,000, the Bhatiyas, 100,000, and the Bhatiyas, 100,000. The Bhatiyas are not regarded as a caste, but as a community, and for some time past the high Bhatiyas do not regard the lower divisions of the community, but draw a broad distinction between the high Bhatiyas who engage in neither trade nor agriculture and the lower Bhatiyas who engage in both. The high Bhatiyas are not allowed to marry the daughters of the lower Bhatiyas, but will not give their own daughters in marriage to them. They have various names, such as Jammu and Jammu, signifying that the family is connected with Jammu and Jammu. They mostly hold lands on perpetual lease, cultivated by others, who take a share of the crops. The high Bhatiyas are not allowed to marry by choice in the caste, and if there is not room for him in the Bhatiyas' houses, he will enlist in the British army. In the House of Commons campaign and at the high Bhatiyas with a maintained his position as a caste. As a caste he is not a caste, but as a Bhatiyas caste he is not a caste for him. The agriculture of the high Bhatiyas is not

his family unharmful in their acceptance of Islam. Both Hindu and Mussulm Chaks regard specially the tomb of Shah Rukh at a place on the Kili (blue hills to the Nacumbur side). Like the Dogra Rajputs, the Chaks took upon service as the war career for a man, but both Hindus and Mussulms till the end. They are a fighting people, and the spirit of adventure takes them out of their own country. They know the war rules of the Hindu Rajputs, but are perhaps stronger and more muscular than he fights to the end. Besides the Chaks, there are Mussulm Rajputs to the west of the Jhelum, the Jarais, the Bhons (somewhatly known in Afghan), the Chakras, and many others. It should be noted that the Hindu Chaks give their daughters in marriage to the ruling family of Jammu and Kashmir.

The Dogra
as well as
Kashmiris.

There is the fact Jammu and Kashmir Proceedings, suggests that the Ransids and Khakhis of the helms valley might be classed under the head Chaks. Very little is known as to when these people migrated into Kashmir and as to whether they were Hindu or generally admitted that they have a foreign origin. It is probable that the Khakhis have occupied the country on the left bank of the Jhelum for 500 years or more, and that the Ransids, who live on the right bank of the river came in yet earlier. The Khakhis, who enjoy the great title of *Maharaja*, are the true Mussulm Rajputs, and trace their descent to Raja Mal Rathi. They regard themselves as belonging to the Jajpur tribe. The Ransids, who are styled *Wardas*, do accept a Hindu origin. They claim to belong to the Kurukh tribe, and say that the name Ransid is a corruption of *Ram Rathi* and that they are descended from Ali the *uncle* son of Muhammad. The Khakhis and Ransids have a privileged status in the State and their power has varied according to the weakness or strength of the central authority. Under the Afghans, the Khakhis and Ransids paid little to the Government and were practically independent. The Chaks regarded them only as the *tribe* of the valley but the Khakhis and Ransids retained certain rights.

The Chaks
as well as
Kashmiris.


Numerically the Chaks are of some importance both in Jammu, where they number 15,000, and in Kashmir where they are numbered at 12,500. Some of them have settled down to agriculture but the great majority are herdsmen, and in the summer months move up to the splendid grazing grounds above the forests with their buffaloes and goats. They are Mussulms by religion, and many of the *tribe* speak

a dialect of their own known as Parnu. They are a fine tall race of men, with rather sharp faces and large prominent teeth. They sacrifice every consideration for their passions, and even in their religion, chiefly move their feet thought is for their animals. They are generous, indifferent, and simple, and their good faith is proverbial. Kashmir and its mountains have especial attractions for the Tajars, but as forest conservancy expands, these born enemies of the forest will find Kashmir less attractive.

Another pastoral, semi-nomadic people are the Gaddis (گڈی, The Gaddis of Kashmir). They graze large herds of sheep and goats, covering up the mountains as the summer draws on, and returning to the low country when the first snow falls. Their houses are in the high pastures, but there are for some part of the year huts through in some places there are regular settled villages of Gaddis. They are Hindus. They wear duffel clothes and a very peculiar hat of wolf hair. All speak well of the Gaddis, and they are a popular people, welcome everywhere.

In the Kashmir province, out of a total population of ^{Kashmir} 1,157,104, Muhammadans number 1,051,746, Hindus 46,426 ^{Princ.} and Sikhs 11,637. The Census, however, was taken in the winter when many of the resident population were away working in the Punjab.

The Kashmiris are largely a sprig of the splendid Moghul ^{The Kash} the brave Afghan, and the truly high. Warriors and statesmen ^{princ.} came and went, but there was no empire, and no wish on the part of the Kashmiris to further ones to leave their home. The outside world was far and from all grounds inferior to the pleasant valley, and at each of the gates of the valley were soldiers who demanded fees. So the Kashmiris lived their well ordered life, concealed, clever and conservative.

Islam came in on a strong wave, on which rode a fanatical king and a missionary saint, and before we aches that the Kashmiris became Muslims. But their consciences of the country for that the wretched Muslims are at heart. Their shrines are on the east slopes where the old Hindu gods stood, and their revenue an offering which is not not heaped to the wretched mosques and the mean mullahs. The Kashmiris do not look to Mecca, and religious men from Arabia have spoken in strong terms of the apostasy of these wretched Muslims. There are many shrewd shrews of  Rishis, the Rishis, and the Mahatmas and the Pundits, known as the Wani or natural, as distinguished from the Saivis and the Pundits who are foreigners. And as for religion,

tribes have from time to time been founded. The most interesting of these colonies is that of the *Kash Afridis* at *Dranghabata*, who retain all the old customs and speak *Pashai*. They wear a picturesque dress, and carry swords and shields. They pride themselves on their bravery and in the absence of the *Kash* for engage the *Kash* on foot with the sword or spear born from their packy little ponies. The *Afridis* and the *Machwarian* who belong to the *Kashaf* tribe are made to military service in return for which they hold certain villages free of revenue. The *Pashais* hardly came in under the *Kashaf*, but many were bought by *Mahd* and *Kash* high for service on the frontier. They are rapid, adroit, hardy men.

Several villages are held by *fallen* or professional beggars. *Beggar*. They work as agriculturists in the summer and beg in the winter. They are proud of their profession and are liked by the people. They intermarry with other beggar families of *Afridis*. These *Beggar* tribes are scattered throughout over the valley and possess a marked distinctive features.

The dividing line in society is between the *landowners* of agricultural families and the *landless*, that is the market *landless* gardeners, herders, shepherds, butchers, masons, mule workers, and the various servants of the *Kash*. No *landless* would intermarry with a *landowner*. For the most part it is difficult to trace any difference in physiognomy between the two, save that there is often a different dress. But the *Kash* has a *Kash* and the *Kash* or *Kash* are easy to distinguish from other tribes. They have a darker skin and the nose has the regular, tortoise eye characteristic of the *Kash*.

The *Kash* are a very important people in *Kashmir*, for they have the watchmen of the villages and *Kash* used to look after the state share of the crops. As a reward for the *Kash* is given an *Kash* a *Kash* and he has to *Kash* of *Kash* by *Kash* of *Kash*, by which he is *Kash* and *Kash*. But as officials they are trustworthy and have never been known to steal the State treasure which passes through their hands. The *Kash* claim descent from a Hindu king who from fear of his numerous sons scattered them over the valley but some say that they are descendants of the *Kash*, mentioned under *History*.

The *Kash* or *Kash* are also credited with a descent from the *Kash*, and *Kash* *Kash* may be *Kash*. Originally they earned their living by

grazing ponies, but found it more lucrative to steal them. At last they became an established criminal trade and during Sikh rule were a terror to the country. Kishna Daswala, the hero of many a legend, was killed by the Sikh governor Bhab Singh. Ghalib Singh hunted down the tribe, and their end was transportation to Nepal.

Bhais. The Bhais or Bhaiss have been called the ghosts of Kashmir and are a peculiar people with a pocket of land of their own. They may be divided into two classes. Those who, although being among Christians and are admitted to the mosque and to the Muslim marriages form the first class. Those who eat the flesh of dead animals and are excluded from the mosque form the second. They are wanderers, and though they sometimes settle in walled huts on the outskirts of a village they soon move on. Their chief occupation is the manufacture of leather. The first class make shoes and sandals, the second class make wincowing bags of leather and also iron and silver work. They also rear poultry and rear horned cattle. Their women are of fine stature and handsome and they often drift into the city where they become singers and dancers. Once a year the Bhaiss from all parts of the valley flock to Jhel Bala where once he had a fair, and many matters affecting the tribe are then settled.

Bhais. The Bhais or Bhais are a peculiar people. They combine the professions of singing and acting with that of begging, and they have great success, when visiting the Punjab where they perform to Kashmiri audiences. They are excellent artists, clever at improvisation and full of wit as to its results. They are a very pleasant people, and their mirth and good humour form a pleasant contrast to the chronic gloom of the Kashmiri peasant.

Hind. The Hind or Hindoo claim a Hindu origin and even now when blaming one of the crew for his bad judging the captain will say "You are a Hindu." They always claim Hindu as their ancestor, but some accounts point to a Jami origin. The father of the family is an ascetic, and in his quality as householder is often of a violent character. There are many pretenses of the tribe. First rank the hadashidharas possessors of the ashrafs. Then the Hindus, who are really vegetable gardeners, and the hindus of the Hindu tribe, who gather the wild honey and the honey. Next in rank come the men of the large herds known as *dhobis* and order in which carriers of big animals of grain and wood are carried. Then the *dhobis* who provide the poorest of the tribe, but a respectable class, for

they prostitute their females near the Sand Hsin, who net fish, and are said to surpass even the Chang Hsin in their power of abstinence and eat the Hsin Hsin, who collect fish bones in the rivers. The Hsin or Hsin are a hardy muscular people, but are quarrelsome and treacherous. Half the women in the districts of Kwangsi and its tributaries are said to be fertile magicians of the Hsin, who often the mother of the first child yet kills travellers upon the banks of the valley and its rulers. The Hsin believe in a great soul and European travellers would be said to leave him on his trip. The chief tribes names of the Hsin are Hsin, Lin and Mal.

The various branches of the Hsin are carriers, blacksmiths, potters, weavers, butchers, washermen, barbers, tanners, makers, goldsmiths, carvers, carpenters, divers, milk men, cooks, bakers, and small makers. Many of the Hsin have taken to agriculture, and some of them are extremely independent of these so-called masters. The only class of persons who apparently cannot take to agriculture are the weavers. Their apt hands and weak knees make field work an impossibility.

The Hsin are with few exceptions Brahmins, and are commonly known as Pandits. They are in three classes: *astrotogers*, *prophets*, priests, *learned* or *scholars*, *workers* and *clerks*. *Learned* The *prophets* do not intermarry with the others, but the *prophets* and *scholars* do intermarry.

The *astrotogers* are learned in the *shastri* and expound them, and they draw up the *shastri* in which *prophets* are made as to the events of the coming year. The *prophets* perform the rites and ceremonies of the Hindu religion. But the vast majority of the Brahmins belong to the *scholar* class. Formerly they obtained employment from the State but recently they have taken to business, and some work as cooks, butchers, confectioners, and tanners. The only occupations left hidden to a Pandit are those of the soldier, judge, country porter, husband, carpenter, mason, and landowner. Many Pandits have taken to agriculture, but the very Brahmins look down on any profession save that of writing, and few would ever think of marrying a daughter to a Pandit who is not a scholar. They have no real aptitude for business, or they might have found great openings in trade in Yunnan under the new regime. They live in the city and if they obtain employment outside they have their wives and families behind them. They are a handsome race of men with fine well-cut features, small hands and feet, and graceful figures. Their women are

fair and good-looking, more refined than the Mussulmans. The children are extremely pretty.

The Jains are broken up into numerous *ganas*, but though the Jain religion retains the name of the *gana* to which it belongs as he performs his abstinence, the outside world knows him only as his *gana*. Marriage within the *gana* is forbidden and the Kashmiri Jains do not intermarry with the Brahmins of India. Among the leading *ganas* may be mentioned the following: Tulu, Kachari, Koli, Munari, Marhu, Khatia, Jambh, Naga, Bhari, Jambh, Bana, Dhar, Jambh, Marhi, Thana, Wangra, Mappa, Marhu, and Thana. The descendants of the Jains, said to be only eleven families, who survived the persecutions of Sikandar Shah and remained in the valley are known as *Mahals*. The others, descended from returned fugitives, are called *Banahals*.

Khatols. There are a few Khatols, known in Bokara in Srinagar engaged in trade and shop-keeping. They are in no way in touch with the Parsis, though at one time in some cases known as a Khatri being admitted to caste by the Mahomedans.

Sikhs. The Sikhs of Kashmir were probably Punjabi Brahmins who emigrated to Kashmir when the valley passed into the hands of Mughal Sultans, but the Sikhs of India declare that their ancestors came to Kashmir at the time of the Afghan rule. They are not in a flourishing condition. They look to agriculture but chief means of livelihood and are a great assistance. They are ignorant and less devoted, and unite with the Mussulmans but were once very often among themselves.

Christian missions. In 1803 the British established a mission at Srinagar, but although converts are no less numerous much has been done by various missions. Chief among these is the Church Missionary Society at Srinagar, established in 1814 which maintains an extensive hospital. Owing to its example the first State dispensary and school were opened. Other missions have been founded by the Maronites and the Roman Catholics at Srinagar.

Pasture. The beautiful and green meadows of Kashmir are no suggestion of splendid playgrounds that one naturally expects to find where natural game is the rule and the legendary fairs of roses conjures up a vision of a happy laughing people who were skilled in the harvest of flowers long before modern Europe dreamed of such carnivals. But in reality there is no game and no pastime in Kashmir proper. Bakhsh, Chitral, and Ahar are the homes of polo and Ladakh has its polo dance but Kashmir has nothing distinctive save its actual and

roaring torrents for a few hours after heavy rainfall, but at other times are broad stretches of burning sand. The crop depends for a full crop on timely and well-distributed rainfall.

The parched desert hills are composed of a red loam, the dry stream-beds round stones and covered with stunted growth of *ferox ramaria* and *Aspalathus* bushes, broad-leaved species of oaks, acacias, and in parts bamboo. The *fer Fagaria*, is used to hedge the fields and to be preserved pastures, and to keep the misers from damaging the crops. The soil is light and dry, quality as the low slopes and drainage is good. Frequent rainfall is necessary to ripen the crops, mainly wheat, barley, and sorghum (sorghum) in the spring, and millet and maize in summer. In the autumn, but rain washes away the soft earth and leaves the surface of the soil a mass of stones.

Where the desert hills end, and before the first limestone range is crossed, there is a narrow belt of sand hills lying in the valleys traversed by the clay streams which carry the drainage of the mountain hills on the lower side. When the depth of soil is sufficient, excellent crops are raised and much of the land is irrigated, but on the slopes where the depth of soil is small, and the limestone crops up to the surface (grass), cultivation is precarious. Too much rain causes the soil to become waterlogged, as perdition is stopped by the rock hill, and during a severe drought, if hot weather the rock surface becomes so heated as to burn the roots of the crops, which wither.

Irrigation. In this portion of the province wells are few owing to their cost. Except in the hilly districts on the streams deep boring is necessary and it is common to find that the water is from 30 to 100 feet below the surface. The cultivators are not as a rule sufficiently well-to-do to undertake the expenditure necessary to sink such wells, and risk the failure of finding water. Since the introduction of the regular equipment, the British has done much to encourage the sinking of wells by the grant of advances on easy terms.

In the tract between are found the only considerable areas protected by irrigation. The nature, difficulties to be overcome are great, as the soil of the land makes projects costly and difficult to execute. The lines of irrigation have to cross the drainage of the country, and it is not easy to secure the channels against damage from the floods when in flood. Owing to this difficulty, the more ambitious projects of former days, the Kashmir canal taking off from the Jhelum above the

Midhous were the Shiba Nahr taking off from the left bank of the Chirash opposite Akhaur, and the Katabandh or Dajpai Nahr taking off from the Chirash on the right bank, failed to render permanent help to the country. Something has recently been done to remedy the apathy displayed in the past. Two old irrigation works taking off from the Indus in the Jamuna field, the so-called Dar-dar when irrigating the land immediately below Jamuna city, and the Sarwan canal irrigating the villages around Sarwan cantonments have been realigned and put on order and the Dajpai canal, taking off from the right bank of the Chirash and irrigating a large portion of the Akhaur field, lying immediately north of the Khayrath Awar has been reconstructed.

Under agreement with the Government of the Punjab the right of the State to take water from the Ravi across the Britished weir, for the irrigation of spring crops in the Kashmir valley has been surrendered in consideration of an annual payment of Rs. 5,000. The restoration of the old Kashmir canal, which takes off above the weir is thus not financially attractive. Probably the remaining portion of the 30 per cent. surplus of the Baramulla, could be irrigated from the Jhelum but the source of irrigation has not been tapped.

There are many drawbacks to agriculture. The administration in the past was bad and mismanaged. There are practically no roads and in the South the even drinking water is obtained with difficulty. Much damage is done by locusts,蝗, and monkeys, the first named animal, through its voracity, being regarded as sacred like the cow. Cattle, turned loose, either as a liberty to the end of no further use or devoted to the deity, have become quite wild and do much damage to crops.

Above the first meadow range are a country of wide valleys and high hills consisting of Hama, Karamagaz, Laksingaz, Narsarda, and part of Hara. This has a more temperate climate than the tract just described. The supply of water by perennating streams is constant, and the stream beds are deep and irregular in foot walls reflected. During October the Hinduistan range rainfall is usually heavy and fairly constant so that the people do not cultivate in patches much about irrigation, except where this can be constructed at little expense. The crops are much the same as on the plains, but having yet way to maize and sugarcane and turnover disappear. The weasels are shorter. The areas of peaty soil with the limestone, calcareous, or approaches the surface of the soil are common.

11:00 AM
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1. **Introduction**
 2. **Methodology**
 3. **Results**
 4. **Conclusion**

valuable. Commercial crops are not raised and prices generally run low. Trade is carried on by men who keep droves of pack bullocks or ponies, carrying to goats and the use of the latter by farmers, gunsheeds, and shepherds. A considerable export of gold takes place. Wild fig and monkeys do damage but no apple are found. Autumnal fevers are very rare.

Uplands.

The higher uplands, including the Jugal Kishore Ranthali, part of Kulu and Kilmur Khyas, have a rainfall of 100 in. and in the winter snow falls. The climate is a different class from those in the plains and lower hills, and Kashmir and ferns are found. Here the mango tree gives place to the apple and the pear the Chinese pear (flower) and the cedar are found. The climate approximates to that of the valley of Kashmir, and is therefore on much the same level. The specimens are well as in Kashmir and Jugal in Dhilli, Kishore and Kilmur. This tract is healthy and only in the more elevated valleys do fevers prevail, but people largely use a general and the small fever. Grassing lands are plentiful and a more extensive. Early snowfall and cold winds from the mountains affect the crops in the parts adjoining the Himalayan range and prevent their coming to maturity in certain years. Wild fig and monkeys do some damage.

Kashmir plains

owing to its system of rivers, Kashmir is a great passageway a large area of alluvial soil which may be used as a great source of the soil. It is found in the hills and in the mountains and the alluvial soil is found in the hills of the Jugal and extending as far as the desert. The soil is of great fertility and every year is renewed and enriched by water from the mountain streams. Up to the present, the soil of the system of rivers, extending the soil of the mountain streams is rich and of great value. But the soil is not yet down an increasing amount of sandy deposit which is partly due to the reduction of water in its course.

Kulu

The Kashmiris do not have considered the crop worthy of attention as the hills are not high and the soil is not rich. It has been reported for the rice fields and it is said to have nothing good about the soil. But this is a great mistake which requires positive treatment with water. There are known as grass, hills, and the soil is not good. It holds water and in years of heavy rainfall is the soil and the rice. But if the rain is heavy the soil is not good and the rice is not good. Hills is a rich land of great fertility.

wood. Near Srinagar and the larger villages the garden culture is cultivated, and the only market weed is pondweed, or night-maid as called with the dose of the dry weeds and pulverised by the action of the sun.

Irrigation. Agriculture in the valley practically depends on irrigation. This is in the formation of the country this is easy and is ordinary years abundant. If normal snow fall in the winter and the great mountains are well covered, the water supply for the year will be sufficient. The snow melts into streams abundantly at times, which rush down to the Jhelum. From both sides of the river the country runs to the mountains on both horizons, and the water passes quickly from one village to another in years of good snowfall. At convenient points on the mountain slopes temporary dams or groynes are built, and the water is taken off in main channels, which pass into a network of small ditches and eventually empty themselves into the Jhelum, or into the large swamps which lie along its banks. Lower down, where the streams flow gently, dams are raised. All villages which depend for their irrigation on a certain river are obliged to assist in its construction and repair. The weir consists of wooden stakes and stones, with grasses and willow *Salix* twisted in between the stakes, the best grass for this purpose being the *slak*. The channel often has to be taken over rivers and around the edges of the famous cliffs, and irrigation then becomes very difficult. In former days, when the State took a share of the crop, it was in the interest of the State to look after irrigation and to send its repairs. But now this, when attempts are made to introduce a fixed assessment, the villagers have had to arrange to repair themselves, and where the channel passes through difficult ground the irrigation has become very uncertain. If a river has to be crossed a flat bottomed boat, similar to those in ordinary use, is covered on high timbers, and the water flows over in a queer looking aqueduct. When a river has to be passed on a steep, a tunnel will sometimes be made, but as a rule the channel is cut along the face of the cliff and great loss is caused by the frequent breaches. In old days every main channel there was a *mantri*—one of the villagers whose duty was to see to repairs and to collect tribute. The *mantri* had not received pay for years, and the channels had fallen into great disorder, but the office has now been revived. The system of distribution is rough and simple, but it has the advantage that quarrels between villages rarely arise, and disputes between cultivators of the same village are

irrigation. Besides the irrigation derived from the mountain streams, an important secondary supply is obtained from numerous springs. Some of these afford excellent irrigation, but they have two drawbacks. Spring water is usually cold, and it does not carry with it the fertilizing salt brought down by the mountain streams, but bears a mass which is considered bad for rice. The channel or its long, gentle course through the valley gives no irrigation as given, but as the population increases water will probably be taken by the Persian wheel. The only left irrigation at present takes the form of the simple and unimproving pot and levee *chabab* and in terraces and the small square *qanat* (sprinkled) garden cultivation depends wholly on this system. In some of the districts the spring level is not very deep, and when all the land surrounded by this irrigation has been taken up, it is hoped that wells may be sunk. The best soil and crop will be found more suitable than the Persian wheel, as the spring level is more than 11 feet in depth. In the north west of the country there are a few tanks, and tank irrigation might be introduced very easily here.

The agricultural implements are few and simple. The large plough is of necessity light as the cattle are small, and is made of various woods, but is a heavy one and the upper being perhaps the best material. The ploughshare is tipped with iron. For chiselling and a *harrow* similar is used and the work is done in gangs. Sometimes a log of wood is drawn over the furrows by bullocks, the driver standing on the log. But as a rule from 10 to 15 oxen and the men known as *Adabaks* are employed to work one agency for the disintegration of clods. The *harrow* is made of wood, has a narrow bar and is tipped with iron. It is chiefly employed by the rich man for digging out root clods and for arranging his fields for irrigation. For sowing seed cotton, a small hand hoe is used to stir the weeds and to loosen the soil. The *pot* and *water* for sowing rice and *potting* seed are also mentioned. The *pot* is made of a hollowed out bowl of wood. The *pot* is of light hard wood and the bowl and handle of wood for the purpose is the *harrow*.

Agricultural operations are rarely commenced so early as with ^{Agnes} a certain period before or after the equinox, the spring day of the ¹⁹⁰⁷ *Blasmana*, and the moon, is ^{operation} commencement of autumn. If the period is extended there will be a certain failure in the crop which can be said in a word poor manner. The circumstance which interferes with success is the *potting* and sowing is the absence of irrigation water at the right time, and

in the spring there is great excitement among the villagers of Kashmir (p. 11355) by some natural cause such as the breaking of snow or by other causes, such as the greediness of some professional men who desire the means of an annual income more than the due share of wages. Up to recent years, the cultivation was often secured for forced labour and could not plough or sow at the proper time. And though there is no doubt that it is tough to get work within fair ways after the season, some of the conditions of the working of the

In Kashmir the rice fields, which have remained undisturbed since the last rice crop was cut are hard and stiff. It is not yet perhaps have started by the frost and snow, but it is sometimes the case, so some days before, it will be difficult work for the plough because the soil and grass after the long winter so break up the soil. It runs down very fast, a good watering of the ground and ploughing with a common. In certain villages the soil is so damp that ploughing has to be done rather while the sun is out, and the soil will be much poorer than from fields where the soil is ploughed in a dry condition. All the rice of the village and the harvested harvest is carried out to the fields by oxen and ploughed in, or is harrowed in a pair of the high which the oxen use and passes and so reaches the fields in liquid manner. Sometimes manure is poured in heaps on the fields, and when the field is covered with water it is a struggle about by hand. Later on in the day the water again and again goes out from the fields of streams and high low channels and long horizontal ones can be seen. When the ploughs have been given and the fields have been prepared with water, the soil is watered and growing can commence in April. The rice seed, which has been usually selected at breeding time can have been watered and the grain is again examined and sown by sowing. It is then put back over the grain bags and covered in water with permanent commotion. Sometimes the seed is poured in earthen vessels through which water is passed. It is then put up in an earthen jar of 1000 lbs. and in the better villages it is considered to grow better than in the water of the river, as the cold season comes in winter and it is much better to get the crop before winter falls. In certain areas it is a little where it is the usual to sow the rice than in the other villages of the valley. The ploughing for rice and the sowing of the rice is not so difficult as for the other crops, as the ploughs are a specialized type. A watering is given and going on to make ready to start the seed but no sowing is put on

Cotton alone receives manure in the form of ashes mixed with the seed. All Kashmirs recognize that the greater the number of ploughings the greater will be the return of the crop, but sowings are large and the cattle are small and weak.

In June and July barley and wheat are sown and threshed. The ears are beaten out by cattle or sometimes beaten by sticks, and when there is no wind a blanket is flung to winnow the grain. Anything is good enough for the spring crops, which are regarded by the Kashmirs as a kind of lottery in which they generally lose heavily. At the same time raising the seed sowing of rice was sown, he describes it as an art which there is no *Erna* or equivalent. It involves putting the rice plants in three rows per acre and pressing the soft mud gently around the green sprouting. No machine can do the work, so only an expert can detect the counterfeits (pans) which present to be true, and *Shardha* must be known. The operations are best performed in hand but it may be done by the feet, as in a few cases the girls squish it up and down the wet beds of mud *Erna* and *Shardha*. Sometimes when the rice is not too high the whole day is passed up there. When rice has obtained about the grain is begun to be the water is run off the fields, and a short row where *Shardha* is found watering is given which roots the rice. When the rice is standing, covered is cut then the water. The ploughing is green, and a crop of rice is this year *Shardha*. When the harvest of the autumn crop comes in, about the first half of September, the rice is cut and is very green. It involves the use of a sickle and the machine the *Shardha* to plough and sow for the spring crops. But rice is known as *Shardha*, and *Shardha* is good reaping when there is much rain or in March, September if rain has fallen, a large area of rice will be ploughed up and sown with *Shardha* and *Shardha* and early sowing for harvest and wheat and *Shardha* is very early at a time when the rice is not yet sown and *Shardha* is very late. For then the *Shardha* is over and harvest is not *Shardha*. The rice is cut in the rainy season in the first plant around the *Shardha* and where a *Shardha* is used and as the Kashmirs will not use plough but sticks for sowing, the sheaves of rice and wheat crops are simply and *Shardha* carried by men to the threshing floor. When the stalks are thoroughly dry threshing commences. First, a bundle of rice plants is put over the stalks and the stalks are pulled over a log of wood and detaches the ears from the stalk. The straw is now

half sown, as it is considered the best fodder and the best that any strain of all.

When the weather is favourable, from October to December, the cultivator is busy ploughing dry land for wheat and barley, but by the end of December ploughing must cease, and the Kashmiri occupies themselves with threshing and husking the rice and other crops and such domestic work, such as the tanning of sheep and skins and the weaving of blankets. It is difficult to find money to tempt a Kashmiri out of his smoking house. The ploughings for wheat and barley are very few and very shallow. For wheat three at the most, for barley five are considered sufficient. The sowing is done in January or February, and the standing crops of wheat and barley would reach a Panicle farmer. The fields are hoed with weels, and it is wonderful that there should be any crops at all. Two years of water in wheat would destroy the land, and the Kashmiris have the sense to leave a spring dry by an autumn crop. Some day their attention may be turned to their barley and wheat, but now for the present relief of their crops being largely produced in the valley. The rainfall is water and very uncertain, and if irrigation were introduced the water in the mountains would prove too cold for plant growth.

The principal crops are rice, maize, cotton, milton, tobacco, hemp, miffels, amaranth, buckwheat, guinea, and sesamum in the autumn, and wheat, barley, pease, rape, flax, peas, and beans in the spring.

The most important staple is rice, and the cultivation does not all his strength is his crops. The rice is grown, and water must be kept running over the fields from sowing time almost to harvest. For if once the land becomes hard and baked, the plants are perished and the seed sown, where the water is abundant is irrigated, and the rice is dangerous to leave the fields dry for more than seven days, and the irrigation should be kept to prevent it with the water. The growth of weeds is very rapid, and once they get ahead of the rice it is no longer difficult to see in the dry season, and to remove the grasses, which come out in an effort to distinguish from the rice, where are very common if irrigation. About the first the rice is sown broadcast, under the water it is first sown in a narrow and then planted out. The irrigation system gives the best and best for rice, but for the rice is not so heavy than that of rice in the narrowest part of the field. The rice is sufficient for the later rice, but the rice is not so good as the broadcast sowings. Provided the rice is grown in irrigation in

fairly abundant, the cultivator will choose the broadcast system, but in certain circumstances he will adopt the nursery method. If water comes late, rice can be kept alive in the nursery 30 ds, and the young seedling transplanted after 10-15 days after sowing.

Just as there are two methods of sowing the rice, so there are two methods of preparing the soil. The one is known as *do*, the other as *dozoku*. An old proverb says that for rice cultivation the land should be absolutely wet or absolutely dry. In the cultivation the soil is ploughed dry, and when the tools are perfectly free from moisture and do not leave weight when placed over the feet, a wet situation is given and seed is sown. In *dozoku* cultivation the soil is long and wet, and when three ploughings are made and the soil is half water and half mud, the soil with a *dozoku* is sometimes equal to that of *do*. But as a rule the *do* system gives the better results and *dozoku* involves the heavier labour.

The rice are infinite in variety. In one field 50-60 varieties have been counted. They may be divided into three classes, the *shiro* and the *ae*. As a rule the white rice is the more esteemed and as a kind of the white rice are the *dozoku* and the *do* rice. These grow in very marshy and high water to a certain degree. But there are very diverse places and cannot stand exposure to cold water. They give a small crop and require very careful husbandry. The white rice though esteemed as a food, is not so nutritious as the brown rice and is not so regular in the soil. It is not so hardy, grows a larger stature, can be grown at higher elevations, and is less liable to damage from cold animals.

For a good rice harvest the following conditions are necessary: heavy snow on the mountains in the winter to fill the streams in the summer; good rains in March and the beginning of April; long bright, warm days and cold nights in May, June, July and August with an occasional shower and fine cold weather in September. All Japanese agree that *andou*, or the green dew, is the best dew penetrating the water husk and cooling and hastening the ripening grain.

Heat is an important factor also. The best soil is warm retained swamp, and enormous crops are raised in good years from the black peat soil which lies under the banks of the helum. In the autumn, after the water has been kept up, grasses very fine crops of maize are grown, and the soil with is due to the heavy manure given to the field in fallow and also. But with this exception maize never is so common

slopes of the mountains the plant has a longer stem, and some time ago a field attempt was made to spin flax for fibre. Like other early attempts for introducing new staples and industries into Kashmir the experiment failed as there was no one to supervise or encourage the cultivators.

Sesamum The common radium, which is a very common crop, is sown in April. The land is ploughed five times, and is in a ploughing or given as mowing. No manure is applied, but at intervals a 1/2 ton and goat and cow dung. The crop is weeded with the hand hoe and is more closely packed after than any of the other covered plants. The plant is weak and is injured by cold winds. The crops ripen shortly after rain and harvesters are spread under the plants at harvest time to catch the seeds, which fall out of the pods with the slightest movement. In Kashmir the oil, which is sweet, is valued as an oil. An average yield is said to be about 15 mounds of seed per acre.

Oil The oil is a common place to give a good description of oil production. Primary oil was taken by the State in payment of revenue, but this practice has now ceased, and the cultivator retains all the proceeds to himself. There are many oil producers and processors all over the valley, and they keep for their use a small amount of oil and keep the bulk of the oil for which they are to be charged in a barrel. The press is made of stone and is worked by a single bullock. The oil is pressed out of the seed and is pressed up at a great height in the beam which crushes the seed and a curved wooden roller. The stone is set with seed by a man who stands below. The Kashmiris say that squeezed from the seed of the lightest (purple) and most of the oil, but after pressed of but only to get a pure oil from the stone, as the various seeds are mixed by the oil-presser and he knows of the nature and spirit are added. The natives give as a reason for mixing the various seeds, that a much larger amount of oil is obtained by crushing together various seeds and kinds of seed than could be obtained from crushing each separately. The walnut is an important oil seed, but this and the apple are not considered to give good oils for lighting. Walnut is used to dig, and does not give half the burning power of other oil.

Cotton Cotton is grown all over Kashmir up to a certain elevation and in a place where the white rice cease to be cultivated owing to the coldness of the air (here too the cotton plant

disappears. It is cultivated on the *barowas*, and also in low lying land which is irrigable but requires a rest from rice. It is usually should be ploughed frequently and never less than three ploughings are given, after which the land is well pulverized by *makets*. The seed is soaked in water and mixed with ashes before sowing, but the plant receives no manure. Harvesting takes place at the end of April and in May, and the fields are often watered at sowing time.

Wheat and barley are the two spring crops of the valley. Spring and of these the barley crop is the more important if rice ^{barley} alone be considered. The barley commonly grown in the valley is not of a good quality and no pains are taken in its cultivation. The ploughing is given, and when the seed is sown from October to November the land is again ploughed. The fields are not weeded nor manured, and probably have not their match in the world for land and sowing cultivation. It is sometimes difficult to distinguish the barley in the mass of *barowas* and *khawwas*. The grain is not eaten as a food, but is very often mixed by the peasantry with wheat. The *barowas* higher in grain, at an elevation of 5,000 feet there is a good kind of barley known as *gama*, or a better barley than it is an important food staple serving the mountain people. The *gama* heads are much of the same as wheat. The grain has not the half scales adhering to it, but is naked like wheat. The people say that if this is grown at a lower altitude, it reverts to the type of ordinary barley. It is sown in May and June, and ripens in August and September.

Wheat receives better treatment than barley but two or three ploughings, with a third at least once or sometimes sufficient. The land is neither manured nor weeded, and as a rule no irrigation is given. Seed is sown in September and October and the crop ripens in June. The common variety is a red wheat with a small hard grain, and it is a smaller the flake to be very inferior, and is being improved, and is a rather rare the grain of wheat are to be seen even as a food by the rice eating Kashmiris, and the value of straw of these cereals is regarded as a capital and it is common to see large stacks of wheat straw left to rot in the land. On the other hand, rice straw which is not used for fuel but until all else fails in Northern India is the most valuable fodder in Kashmir. It may be that the high elevation renders the rice straw less fleshy and more succulent than in India.

The saffron (*crocus sativus*) of Kashmir is famous for its yellow bouquet, and is in great request as a condiment and as a

pigment for the vermilion of Hindus. Various substitutes, such as lacunas, are now used for the latter purpose by Kashmiri Painters, but if a man can afford it he will use the bright saffron colour mixed with red lead and rounded with a piece of deer's skin. The coloration is peculiar and the legend about its introduction shows as any man that it is an ancient industry.

The present cultivation is according as fast as the local
 method of weed-extermination will allow. Here the first method
 is slow may be inferred from the fact that at present only of
 a total area of 4,125 acres of alfalfa land, only 131 acres were
 sown. Cultivated with the spade. In former days the alfalfa
 cultivation was a large source of revenue to the State, but in
 the summer the people in their distress ate up the bulbs, and
 a heavy weed has been imported from Lithuania and every
 year labor is set apart for the production of seed the removal
 of the weeds is slow. It is not so much a particular object
 and a young growth is required, now it takes three years when
 the bulb is to be planted and in the small narrow plots where
 the bulb is to be grown. These plots must remain fallow
 for eight years, and an drainage can be applied to them and no
 animals are grazed on the soil of water. When come the ice has
 been, placed in the square it will be in fourteen years a bush
 any be. While the cultivation now traffic being prevented and
 the old men sitting down. The time for planting out is in
 May and August and all that the cultivation has to do is to
 break up the surface once a few times, and to remove the
 proper drainage of the soil by digging a mole trench in all holes
 which the flowers appear about the middle of October and
 the people burn the and the drainage being removed at over
 growing seed of the alfalfa turn the soil under e.g. and
 about 15000000 in a row and a useful garden. But as it is at
 present limited to the decrease in the number cultivated of it is not
 but there is no particular property in the soil there which does
 not exist in other districts, though it is of an extremely good
 quality.

In former days men came from all parts to cultivate soil on the Humber alluvium, but now with the exception of a few parcels from Nottingham the industry is on the banks of our estuary. A harvest once the whole harvest is picked and sent into town and then taken to the market who takes care of

There are 10,000 or so tree trunks of large diameter with surface area of 100,000 sq. m. or so. This would include about 100,000 sq. m. of forest area. This is about 100,000 sq. m. of forest area.

for himself and gives the other bag to the fish-water. The bags are never opened, and it has been found by experience that the cultivator never attempts to touch a third bag in the lotteries. When the flowers have been collected he runs a stick of stinging saffron underneath. The flowers are dried in the sun, and the three long stigmas are picked up in the hand. The stigma has an orange to red color, but it is known the shade between the red and yellow saffron is the long whose base of the stigma also makes saffron, but it is of inferior quality to the top. The article then collected in a dry condition is known to the trade as *mongia*, and sells for one ruyin per two. When the *mongia* sold in has been estimated the sun-dried flowers are broken lightly with sticks and separated. Then the whole mass is by an iron basket when the water is run off the essential parts of the flower sink. The parts which have sunk (sunk) are collected, and those which have risen to the top are dried and again beaten with sticks and then plunged into water. The process is repeated three times, and each time the water becomes green. One form of adulteration is to mix a part of the dried with some of the first process. The saffron obtained in this way is lighter in color and of inferior quality. It is known to the trade as *shu* and sells at a lower price than *mongia*. The saffron when made is called *shu* and *shu*.

Next to the saffron cultivation is cotton, and the floating gardens of the Tai Lake, which surround the city of Suzhou. The whole cultivation and vegetation of the lake is full of interest and of great importance to the people. The floating gardens are made of long strips of the lake bed, with a breadth of about six feet, three or four feet wide, and are placed, and are moored at the four corners of the lake, near the lake bed. When the mud is sufficient to bring to bear the weight of a man, heaps of weed and mud are extracted from the lake by cows, formed into rows, and passed at intervals can be made. The rows are known as *poles* and each row accommodates two or three of the rows of *poles*, or large mounds of water, and are of various sizes. Every thing that plants are requires is present. A rich soil and ample moisture with the summer sun, help to grow the various kinds of vegetables and of excellent quality. It is inferior to the floating gardens in fertility are the *shu* lands, which are formed along the sides and sometimes in the middle of the lake when the water is shallow. The cultivator selects his seed and plants various and sometimes produces along his four sides. Inside these he casts thousands of seed and mud

of Burgundy would have been more suitable. Early distillery plants were imported and set up at Gulahar on the Jhelum lake, and a few of the Moscat and Hargre varieties, as well as grapes, have been manufactured year by year. The only machine in present use in Srinagar is the long road carriage and the dustiness caused at the frontier made it difficult to do over work in India at a moderate price. In 1900-1 the gross receipts were Rs. 11,000, and the net profit had averaged about Rs. 11,000 in the preceding four years.

Hops

If not more than introduced by Maheshji Ranvir Singh, and the hop gardens of Gulahar below Srinagar yields a handsome return to the State. In 1900-1 the total produce was 11,000 lb. The crop is sold at from 12 annas to a rupee per pound, and Rs. 10 and Rs. 11,000, while the expenses were only Rs. 3,000.

Walnuts

The walnut tree is indigenous to the country and is shown by the very peculiar shape of the hard walnut, as under a heavy & irregular one is used to break the shell. The fruit is flattened, not the bark used to be a large object to the English. The fruit of the cultivated tree is an important aid to the village through the people seem to be somewhat indifferent to its reproduction. The tree is found all over the valley from an elevation of about 5,500 feet to 5,000 feet. It is propagated from seed, and although grafting is not very common, the general idea seems to be that the tree varies the *doz* (the fruit) and the seeds (the fruit) are common in the valley. The fruit is used for oil and not for eating, and the seeds (the fruit) of the hard shell, is the largest fruit and gives the most oil. The *doz* (the fruit) half was between the *doz* (the fruit) and the seeds and is the ordinary walnut of England. Some of the trees reach an enormous size and the finest specimens are to be found on the banks of the mountain valleys. In former times the State used to collect and in payment of revenue, and it was more profitable to the village to give oil as revenue than to sell the nuts to the State. Now the State takes oil as revenue and the price of walnuts is rapidly increasing. The Kashmiris do not care for the nut as a food as it is heating but it always forms part of the *Kashmiri* diet. The Kashmiris are not very fond of the nut as a food as it is heating but it always forms part of the *Kashmiri* diet. In former times, not long ago, the walnuts were used to a very great extent. In fact there was a demand for the huge *doz* (the fruit) from the State, the wood of which was used for the State and for work, and a Frenchman obtained from the State the right to saw off these huge *doz* (the fruit) trees were destroyed, but the work with the nut

Another danger to which orchards like other fruit-trees, are exposed is the occurrence of the *but frost* an icy mist which settles over the valley in severe winters, and freezes on the life of the trees.

Large almond orchards are scattered over the valley and almost every one of the hill sides might easily be planted with this hardy and profitable tree. It is a somewhat uncertain crop, but very little attention is paid to its cultivation, and as a rule the almond orchards are unfenced. There are two kinds, the sweet and the bitter, the former is worth double the latter in the market. Fenced almond gardens in all parts of the valley prove the fact that State enterprise cannot succeed in bean culture.

There are several varieties of the *peach* (*Prunus persica*) Wang-chang but no one to have their flowers shining on the surface of the water on stems supported by no branch. When the fruit ripens, the nuts sink to the bottom of the lake. The *peach* is found on the Tai Lake and in other small ones, but its home is the Wusong Lake. Of the chief varieties the best is called *As much* in honour of the rice of that nation. This is a small nut with a thin skin, and gives somewhat of kernel for its thin coat of shell. The stone is a jet not with a thick shell and the *peach* has a very thick skin to the long, green, and hard, and gives the best kernel of all. Attempts have been made to propagate the *peach* but it is found that after one year the inferior varieties again predominate.

The cattle of Kashmir are small but hardy, rather bigger than British cattle. They have horns, and their colouring is black or grey. Very little attention is paid to their care or breeding, but a strain of Foreign blood has entered the valley and the dairyman breeds cows of this type. The improvement of the local breeds has been seriously considered by a committee. As winter approaches, all cattle are fed regularly enough with hay and the cows in milk are driven off in the mountain pastures, returning in the autumn to the villages. Great pains are taken to clear the fields for the winter and there are many excellent grasses and fodder trees. The *cowmen*, who live on the fringe of the forests, keep a large number of buffaloes and produce a considerable quantity of milk.

Sheep are large and hardy. Their wool is warm, soft, and Wang-chang secure and are of great importance to the villagers. As the days grow warmer the sheep come up to the grassy pastures above the forests, and return in the autumn. The sheep are made over to professional shepherds when they go to the

mountains. In the winter they are penned beneath the dwelling huts of the villagers, and much of the Kashmiri's comfort in the cold months depends on the heat given out by the sheep. The wool is excellent, but it varies in quality. Roughly speaking, the finest wool is found in the north of the valley where the grasses are good. For winter fodder the Kashmiri depends on willow leaves and the sweet dried leaves of the dog (frs.). Fat is always given to the sheep.

Goats are not numerous in the valley but every year enormous flocks are brought up to the mountains. They do much injury to the forests.

Ponies. The ponies are small, but very hard of great endurance. Every village has its breed master, but no care is taken in the selection of sires. There is a great desire for rational breeding, and also for stud breeding.

Purees is abundant. The best breed of horse is found in the Ladak valley. Turan and Chitral are countries and there is a large export of the latter to the Punjab. Turans have not yet been introduced in Kashmir.

Honey is produced in the highest villages of the valley. One house will often contain many hives, and in a good year a hive will give 15 acres of corn. The five entrances of two large earthenware pigons let into the wall of the house and in the outer plate there is a small hole through which the bees enter. The honey is clear and excellent.

Sisaliculture. It is believed that the silk industry of Kashmir is of very ancient date and that the valley furnished part of the Rawan silk which found its way to Damascus. In 1849 Mahabud Khan (Sardar) who was an enthusiast in new industries, organised sericulture on a very large and expensive scale. But his industry was altogether unsuccessful and on publicly official notes in which he was praised a great part. There was no real skilled supervision, disease attacked the silkworms, and the enterprise languished. But in spite of mistakes and failure it was proved that Kashmir could produce a silk of high quality. In the Kashmir valley to the south the industry languished, and the Settlement Officer Mr. John W. Walter Lawrence introduced it but attended very large losses. Experiments were performed in 1864, and was done on the English market with satisfactory results. Later in 1867 an expert was employed, and the State started sericulture on a moderate European scale with Indian rearing machinery. All attempts to raise local seed was abandoned and seed was imported annually on a large scale. The results have been

are found mainly in the Jammu district on the Ravi river where there are about 3,000 acres of mixed forest which contain the so-called male kind (*Pinus rostrata* stricta). They are valuable at a good price but are at present subject to much injury from the Jui tribe, who hack them for fuel for their stoves. The grass areas are mostly blanks inside dholes and other forests, which are used as grazing grounds by the villagers.

In the Kashmir Valley the forests supply timber and firewood for local use and also logs for export. During the past few years *deodar* sleepers have been exported down the Indus river the sleepers proving very well bought the timber is also as good as or better than the *deodar*. The *deodar* is used in building as well as in the manufacture of paper which being both very durable and cheaper than *deodar* is the favourite building material. From a Champar both logs and sleepers of *deodar* are exported down the Ravi to Wazirabad. The logs being of better quality higher prices are obtained for the timber than for that of Kashmir. From Wazirabad entry in the log and sawn into sections is reported down the Indus. The sleepers are entirely of *deodar* but logs of both blue and long leaved *deodar* are now seen down the Indus. From three districts, Kashmir, Champar and Wazirabad, give the greater part of the forest revenue which amounted to 6,8 lakhs in 1904-5 while the export duty was 3 lakhs.

Up to the present, during the weakness of the forest department little has been done in the way of artificial propagation of *deodar* but in a preliminary stage in the process measures already taken, the three important species, *deodar*, blue pine and the long leaved pine, are rapidly filling up blanks in the forests. The reproduction of *deodar* by natural means, whether in Kashmir, Champar or any other district is somewhat less in the case of blue pine than in the case of the other two species of *deodar*. In the district of Muzaffargarh the reproduction of blanks made possible by the forests is all that can be done. Since the last great wood cut of 1897 several of the forests have been acquired and are now for healthy plants, ranging from 10 to 15 feet in height. The natural destructive force of fire is little to be feared in the matter of restoring denuded areas or blanks. So far the destruction has been unnecessary and, hardly any thing has been done to prevent it, and the only parts preserved are the Kailash forests. The greatest need at present is protection from the damage done by grass.

	1892-3	1902-3	1904-5
	Rs.	Rs.	Rs.
Other goods —			
European	76,668	34,71,434	36,91,336
Indian	71,372	8,60,185	7,80,428
Metals			
Brass and copper	1 33, 43	1,46,140	99,888
Iron	1 31, 170	4,91,030	1 9,567
Salt	4,82,193	8,69,761	8,31,601
Sugar			
Refined	4,81,484	9,81,874	8,28,675
Unrefined	1,13,413	8,47,686	3,43,761
Tan			
Indian	1,47,730	3,57,638	5,22,971
Foreign	1,030	1 360	3,615
Polacca	1,01,762	3,30,103	8,01,160
Petroleum	26,114	31,793	1,84,164

In 1892-3 the total exports were valued at 53.5 lakhs. In 1902-3 the value reached 44.6 lakhs, and in 1904-5, 54.8 lakhs.

The following table shows the value of the more important exports in the years selected :—

	1892-3	1902-3	1904-5
	Rs.	Rs.	Rs.
Drugs, not intoxicating	1,60,621	2,08,191	3,78,473
Flax	5,486	97,111	45,011
Fruits	2,38,621	4,58,101	7,48,881
Grains	1,26,391	1,47,617	7,98,160
Wool	1 19, 170	1,45,130	1,63,063
Alf	16,130	20,067	30,007
Limeed	7,138	8,33,074	6 73,031
Wool			
Manufactured goods—			
Wool	1,47,130	7,31,363	10,73,047
Wool	1 9, 173	25,000	1,000

The value of fruits exported is increasing steadily, and would expand further with more rapid communications. GAI also is a very important export. Perhaps one of the most remarkable increases is that in limeed, which possessed very little value before the opening of the cart-road. The trade in shawls was practically dead before 1892-3. An important new staple not included in the list must be noticed. Raw silk produced in the Kashmir Valley has been exported in rapidly increasing quantities and values, and there are indications that it will become one of the most important products of the country. The value increased from Rs. 7,000 in 1897-8 to 13.6 lakhs in 1902-3, and nearly 21 lakhs in 1904-5.

Through trade.

Another item of some importance is the trade which passes through Kashmir between India, Chinese Turkestan, and

The only railway at present is a short length of 16 miles, constructed at the cost of the State, which is included in a branch of the North Western State Railway from Wazirabad through Sialkot. It cost 9.6 lakhs, and has usually earned a net profit of 1 to 2½ per cent., in addition to the rebate allowed from traffic exchanged with the North-Western Railway. A line has been surveyed along the Jhelum valley route, and it is proposed to work this by electricity derived from the river.

The State is included for postal purposes in the circle administered by the Postmaster-General of the Punjab and North-West Frontier Province. Formerly Kashmir had its own postal service and used its own postage stamps, but as far back as 1876 there were British post offices in Srinagar and Leh. The State stamps were used only for local purposes, and letters and other postal articles passing between the State post offices and British India were charged with both Kashmir and Indian postage. In 1894 the State posts were entirely amalgamated with the Indian postal system. The following statistics show the advance in postal business since 1880:—

	1880-1	1890-1	1900-1	1904-5
Number of post offices	4	9	11	28
Number of letter boxes			199	107
Number of miles of postal communication			1,688	2,624
Letters delivered—				
Letters	26,326	28,316	1,414,100	1,740,674
Postcards	1,106	16,828	104,82	1,631,430
Packets	23	6,126	96,157	60,100
Newspapers	21,978	20,126	93,144	240,714
Parcels	741	4,972	14,186	9,492
Value of stamps sold in the				
Province Rs.	2	2	1,030	1,06,018
Value of money orders issued				
Rs.	2	2	1,03,591	1,27,787

* Including unregistered newspapers.

† Registered as newspapers in the

Province. The figures are included in those of the Punjab.

Famines

The accounts of early famines are vague, but it is known that they occurred. While Sher Singh was governor (1832-3) severe distress was felt and many people died, but the next governor, Maan Singh, did much to restore prosperity by importing grain. It is said that the population was reduced to a quarter of that figure. In 1877-9 a worse disaster was experienced and the loss of life was enormous. Famines in Kashmir are not caused by drought, as in India, because the

Under the *Wazir Waddat* are *Subdividers* and sometimes sub-divisional officers. All these officers exercise revenue, civil, and criminal jurisdiction, with regular stages of appeal. In revenue cases the appeal lies to the governor, and from here to the revenue minister. In civil and criminal judicial cases the appeal lies to the Chief Judge of Jammu. From him there is an appeal to the judicial minister who is virtually the final court and it is very rare or almost that an appeal is made from him to the *Maharaja*. All death sentences passed by the Chief Judge require the confirmation of the *Maharaja*. In 1900-1 there were eighty-one courts of all grades, of which eight exercised criminal jurisdiction only. Although there is a centralized form of government as in British India, the real power rests with the *Subdividers*, and *Magistrates* and he absents of many administrative are primarily checks on the use or abuse of appeals.

Since 1847 when the law of taxation was introduced into Jammu, litigation was not very heavy and he provide frequent sessions three different parts of court. The improvement in the courts, and the efforts of his ministers in the law, are shown by the fact that the number of suits for recovery of *Maharaja* property increased from an average of 3,133 during the ten years ending 1890 to 10,706 in the next decade, and was 12,700 in 1900-1. The system of registration for death registration that in British India. In 1900-1 the number of deaths registered was 6,548.

Crime is not common in the Jammu province but there has been an increase in cases of theft, hurt and murder, due to the greater number of his police force which is being gradually assimilated to the rules and procedure prevailing in British India. In the whole state 15,300 persons were brought to trial in 1900-1 of whom 2,182, or 15 per cent, were women.

In Kashmir the *Subdividers* in the valley are supervised by the governor himself while those of the *Maharajah's* districts are in charge of a *Wazir Waddat* subject to the governor and the Chief Judge, whose offices are in Srinagar.

Finance.

The finances of the state are immediately controlled by an assistant general who for some years has been lent in the British Government. The revenue and expenditure for 1895-6, 1900-1 and 1905-6 are shown in 1000s as the end of his table 14, 15, 16. In the last year the total revenue was 93 lakhs, the chief sources being land revenue 34 lakhs, forests 1 lakhs, customs and duties 4 lakhs, and scientific and public departments 2 lakhs. The expenditure of one crore included

public works 30-4 lakhs), military 15-2 lakhs), petty police and courts 10-9 lakhs), scientific and minor departments 12-1 lakhs, and land revenue (6-1 lakhs). The State is very prosperous, and has more than 46 lakhs invested in securities of the Government of India.

The British rupee is now the only rupee used in the State. Currency. Previously three coins were current: namely, the *dharm* rupee, value 8 annas, bearing the letters J H S. These letters have given rise to many abuses, but they were really a hint—namely, to indicate Jangma, Hari Singh; the *dhali* rupee, value 10 British annas, the *Amal dhali* rupee, value 12-16 British annas.

The *dharm* or *amul*, which has for centuries past ^{Weight and} been the standard of weight, is equivalent to 12½ lb. The ^{units} *amul* is usually abbreviated to *dharm*. Land measures are calculated not by length and breadth, but by the amount of seed required by certain areas of rice cultivation. It has been found by measurements that the *dharm* of land—that is, the rice area which is supposed to require a *dharm*'s weight of rice seed, exactly corresponds to 4 British acres. For length, the following measure is used:

1 *gura* = 12 inches.

20 *guras* = 1 *guz*.

20 *guras* = 1 *guz*, in measuring *gudhara* cloth.

There is no scaled yard measure in Srinagar, but from frequent experiment it was found that the *guz* of 20 *guras* is about 4 inch longer than the British yard.

The land revenue system has been described as *proprietor* ^{Land} ^{revenue} ^{Tenures} *in ruins*. It is probable that the methods of administration introduced under Akbar led to a disastrous joint responsibility, but this was never fully accepted. The land was regarded as the absolute property of the State, and the cultivators were merely tenants holding from year to year with no rights in the waste land. Within the village, however, the cultivators recognised the acquisition of what may be called a right of occupancy acquired by long prescription (*mirat*). At the settlement which commenced in 1857 this custom was accepted by the State, and permanent hereditary rights were conferred on persons who agreed to pay the assessment fixed on the land entered in their names. The right is not alienable by sale or mortgage, and the holder is called an *awami*. Besides the ordinary village occupants there were grantees, but these have gradually been converted into *awami*.

Under the local *Sultans* the State share of produce was sometimes

returned at one-half, and this was increased to three quarters by the *blaghah*. In the absence of any survey or record of rights, the revenue assessment was harsh and corrupt. Land agents and landlords were appointed who purchased at the time probably the sum of land allotted to each family being regulated by the number of individuals it contained. The state took three-fourths of rice, maize, mustard, and black wheat and nine-tenths of all kinds of pulses and oil. In 1400, by which was intended to be all land, villages were made over to contractors called *hadadars* who shared the cultivation and the state. An attempt was made in 1831 to introduce a regular settlement for three years, but the interests of the *hadadars* and current officials were too strong to allow such an innovation. In 1844, on the *Aras* *dehant*, notes that system was actually put in hand in Kashmir and it was not till 1846 that a new land assessment was introduced. This was made by taking the average value which the *hadadars* there gave in each village and adding a quarter for the profits, but not more than 30 per cent. But as a matter of fact it was left to an official to decide how much revenue should be taken in cash and how much in kind. There was no process of inspecting villages, or of distributing the demand land for a whole village over separate holdings, and the distribution caused by the failure of 1831 is added to the state of such summary procedure. Two years later a system of distributing villages was introduced, which put up with greater abuses, which the administration also did great harm, as to the state the *hadadars*.

In 1848 a regular settlement was commenced in the valley by a British officer assisted by contractors. It was performed by a company survey and the revenue was fixed for ten years. Villages were inspected according to their position and standard amounts of produce were calculated. In estimating the value of a *hadadary* was made for value from 1848 to 1858, and 1858. The assessment was also checked by comparing the collections in previous years and recent trade in former transactions. In 1858 the revenue was estimated by the return of the cultivators who had been turning the disastrous failure. When the settlement was completed in

1859 it had cost 34 lakhs and had raised the revenue by 19 lakhs annually. A revision was commenced in 1861 and completed in 1865, the methods employed being similar to those followed at the first regular settlement. This revision raised the revenue in the valley from 114 to 17 lakhs, or by

17 per cent. The incidence of revenue varies from about 20 annas to Rs. 12 per acre, and represents an all-round rate of about 20 per cent. of the gross produce. Regular surveys have also been completed in other parts of the state, such as Jhelum, Jammu and Baramulla. The total receipts from land revenue amounted to 34.4 lakhs in 1905-6.

The Public Department of the State is chiefly concerned with the manufacture and sale of liquor, including some and brandy at the Jhelum distillery. In 1900 the administration was examined by an officer sent by the British Government, and as a consequence of his criticisms in the form of Jammu were entirely lifted. The total receipts in 1900-1 were only Rs. 30,000, but by 1904-5 they had risen to Rs. 73,000.

In 1904-5 the total revenue from stamps was 2.25 lakhs, of which 1.6 lakhs represented receipts from the Jhelum district.

A considerable increase is derived from customs and tolls levied on the trade which passes over the State. The receipts amounted to 2.8 lakhs in 1905-6.

Census and Survey, amounting to 1.25 per cent. on the land revenue, for the following objects: surveys to landholders, village boundaries, 5 per cent. *panchnama* etc. surveys, 4 per cent. valuation of property, and finally, 2 per cent.

There are two municipal committees in the State one at Srinagar and the other at Jammu, provided for by the Jhelum Municipalities Act, 1902, and the Jammu Municipalities Act, 1902. The committees are constituted by the British as representatives of different communities. There is no separate municipal fund. The State provides the expenditure for municipal and sanitary purposes, while the receipts, such as water, are likewise referred to the general revenues. The expenditure in 1905-6 was Rs. 97,000, of which Rs. 6,000 was met from fees and taxes and the balance by a grant from the State. In 1906 some sanitary establishments are maintained which are under the municipal committee of the province in which they are situated. Great improvements have lately been made in the drainage system of Jammu town.

The expenditure on public works in 1905-6 was 30.8 lakhs, and will surely be heavy. The maintenance of long lines of communication between Kashmir and India and between Kashmir, Gilgit and Ladakh, the cost of buildings in Srinagar and Jammu and the numerous houses which have to be repaired when great floods and earthquake occur render a large annual outlay inevitable. The road from Kothli to Baramulla alone

Serious crime is rare, and the force of regular police is small. Police paratry small. It includes 3 assistant superintendents, 9 inspectors, 297 subordinate officers, and 1,113 constables, costing about 22 lakhs annually. The force is controlled by two superintendents for the half provinces of Jammu and Kashmir. Police duties in the villages are performed by the *chambdars*, who are generally Hindus in the Jammu province and are paid by the villagers. The responsibilities of the headmen for reporting crime is insisted on. A standing fund for regular police is maintained, and the system of identifying convicts by thumb impressions has been introduced. In 1905, only 9,076 criminal cases were reported, of which 640, or 7 per cent, ended in conviction.

Criminal jails are maintained at Jammu and at Srinagar town and seven small jails in outlying parts. Both the principal jails are usually overcrowded, the daily average number of prisoners in 1904 being 543. The expenditure on the same was Rs. 27,000 on the Jammu jails and Rs. 3,400 on the others, and in 1905 a total of Rs. 32,000. Convicts are employed in procuring fuel, making bricks, and other manual work in Srinagar and in weaving, spinning, and manufacturing industries at Jammu. The receipts for jail manufactures in 1905-6 were Rs. 18,000.

The Government of 1904 showed little attention was formerly bestowed on education. In that year only 2 per cent of the population could read and write. Among males the proportion was 11.4 per cent while among the whole female population only 1.2 per cent could do so. Hindus appear to be much better educated than Muhammadans. In 1905 the State began to take steps which attracted by 1905 to 4,193 boys. By 1905 the number of high schools had risen to 24, including two high schools at Srinagar and 2 Anglo-Vernacular and 22 vernacular middle schools and 133 primary schools. Besides these 1,911 schools at present in the State of Srinagar, and there are one and a half schools at Jammu, two aided high schools and an aided middle school at Srinagar, and an aided middle school at Jammu. Besides schools there are five State high schools, one at Jammu and the other at Srinagar (1904-5, the *Shiksha Samiti*). The total number of pupils in all the schools was 11,400. The department is under the control of the foreign minister who is aided by an officer and two assistant secretaries of schools. There being no State college of scholars ships are specially granted by the British to students for pursuing advanced studies at colleges at Lahore. Two schools

ships of Rs. 4,000 each have also been sanctioned for training State symbols abroad in useful arts. A grant of Rs. 100,000 of the value of Rs. 25,000 each are granted to the normal schools and thirteen of the value of Rs. 1,000 are awarded to students sent up for training in the normal school and training college at Lahore where two teachers are annually sent to be trained in the subjects of their appointments. The total expenditure on education in 1905-6 was 1,07 lakhs compared with only Rs. 45,000 in 1900-1.

An Arts college was started at Srinagar in 1903 by the trustees of the Central Hindu College Benares in connection with the Hindu high school and the Maharaja has sanctioned a grant in aid of Rs. 15,000 per annum for the college and school from the year 1906.

Medical.

The State maintains at Srinagar two hospitals, two dispensaries with dispensaries with five dispensaries and a Leprosy Hospital. At Anantnag there is a dispensary and at Baramulla there is a dispensary and a hospital. In 1904-5 there were three hospitals, dispensaries and a leprosy hospital in the State. The total number of patients are in the case of the hospitals are 1,114, in the case of the dispensaries 1,114 and in the case of the Leprosy Hospital 1,114. The Medical Department of the State is under the control of a Superintendent Surgeon. In 1904-5 the total number of patients treated was 21,100 of whom 2,110 were Europeans and 19,000 natives were treated. The expenditure was 15 lakhs. In addition to the State hospitals, dispensaries and leprosy hospitals there are private hospitals which have a large number of patients and a hospital at Baramulla. The expenditure on the medical department for the year 1904-5 was 15 lakhs.

Vaccination.

The State is carrying on vaccination of its children, who work in the presence of vaccination officers and in the case of children in the presence of vaccination officers. The vaccination officers are appointed by the Government and the vaccination officers are appointed by the Government. In 1904-5 the number of persons vaccinated was 1,114, of whom 1,114 were Europeans and 1,114 were natives. The expenditure on vaccination was 15 lakhs. The vaccination officers are appointed by the Government and the vaccination officers are appointed by the Government. The total expenditure on vaccination in 1904-5 was 15 lakhs. The vaccination officers are appointed by the Government and the vaccination officers are appointed by the Government.

Public Works.

The Public Works Department is under the control of the Government. The Public Works Department is under the control of the Government. The Public Works Department is under the control of the Government. The Public Works Department is under the control of the Government. The Public Works Department is under the control of the Government.

of Kashmir (1848). J Biddulph *Tribes of the Hindu Kootah* (1880). — [See *Jammu and Kashmir Territories* (1875).] — E. F. Knight *Where Three Empires meet* (1893). W R. Lawrence *The Valley of Kashmir* (1895). Kalhana's *Rājataranginī*, a *Chronicle of the Kings of Kashmir*, translated by M. A. Stein, 2 vols. (1900).]

TABLE I.—TEMPERATURE, KASHMIR

Station.	Height of Observatory above sea level.	Average temperatures in degrees F. for twenty-one years ending with 1906 in									
		January.			May.			July.			November
		Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.
Baramulla + Lah.	5,004 11,603	33.2 19.1	14.0 20.4	61.9 49.9	21.2 26.5	74.3 65.3	26.8 26.9	46.4 34.0	12.1 26.3		

The figures here are the means for those years only.

Note.—The diurnal range is the average difference between the maximum and minimum temperatures of each day.

TABLE II.—RAJNITAL, KASHMIR

Station.	Height of Observatory above sea level.	Average rainfall in inches for twenty-one years ending with 1906 in											
		January.			April.			July.			October.		
		Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.
Baramulla + Lah.	5,004 11,603	3.14 0.31	2.35 0.50	3.74 0.40	1.93 0.11	1.67 0.16	3.03 0.47	1.44 0.31	1.12 0.18	0.47 0.03	0.34 0.17	26.70 3.05	

* The figures here are the means for those years only.

TABLE III DISTRIBUTION OF POPULATION, KASHMIR, IN 1901

Districts	Area in square miles	Number of towns	Number of villages	Total Population			Urban Population			Mean density per square mile†
				Persons	Males	Females	Persons	Males	Females	
Chenab		1	1,100	111,018	103,202	17,816	13,106	11,211	1,895	167
Udhampur			1,051	94,043	75,416	18,627	12,613	10,611	2,002	184
Bhimber			1,019	90,137	110,078	20,941	30,144	65,307	35,167	933
Jarula			84	15,411	10,301	5,110	7,111	4,111	3,000	193
Punch			314	153,799	176,179	26,480	30,100	35,111	5,011	
Jhelum			4,171	1,111,100	1,071,100	40,000	1,111,100	1,071,100	40,000	
Total, Jhelum Province	1,111	1	4,171	1,111,100	1,071,100	40,000	1,111,100	1,071,100	40,000	
Kashmir		1	1,019	94,043	75,416	18,627	12,613	10,611	2,002	104
Muzaffarabad			117	103,100	103,100	0	103,100	103,100	0	64
Total, Kashmir Province	7,111	1	1,136	1,111,100	1,071,100	40,000	1,111,100	1,071,100	40,000	193
Ladakh			104	103,100	103,100	0	103,100	103,100	0	4
Gilgit			104	103,100	103,100	0	103,100	103,100	0	1,893
Total, Frontier Districts	443		710	103,100	103,100	0	103,100	103,100	0	311
Total, State	10,000	1	8,100	1,111,100	1,071,100	40,000	1,111,100	1,071,100	40,000	366

† Of the area, 1,111 square miles are unpopulated and 1,071 are populated. In cases not under the latter.

* According to 1901.

† Calculated on area actually inhabited.

‡ Calculated on total area.

TABLE IV
 PRINCIPAL SOURCES OF REVENUE, KASHMIR
 (In thousands of rupees)

	1899-0.	1900-1.	1901-2.
Opening balance +	39.63	41.49	38.06
Land revenue	35.73	36.74	36.01
Customs and excise	4.22	7.6	6.38
Ginning fees	0.37	3.33	4.34
Excise	37	30	1.37
Receipts from State property in radio	1.90	43	36
Stamps	1.37	1.73	3.32
Courts of law +	47	30	31
ails	8	3	19
Post Office	43		
Telegraphs	3	6	0
Scientific and mining depart- ments	1.31	1.70	0.40
Agriculture	7	1.67	14.00
arrest	01	1.40	1.50
Forests	8.00	0.33	13.01
Military	36	00	36
Public works	74	48	38
Miscellaneous +	3.40	8.18	2.36
Total	67.40	79.36	90.29
Debt and remittance	1,411.10	1,77.04	3,417.1
GRAND TOTAL	1,478.53	1,856.40	4,517.39

TABLE V
 PRINCIPAL ITEMS OF EXPENDITURE, KASHMIR
 (In thousands of rupees)

	1905-6	1906-7	1907-8
Land revenue	3,12	4,77	6,12
Customs		75	1,30
Forests	2,33	1,84	2,65
Post Office	.6		
Telegraphs	77	46	19
Prize purse and courts	9,22	8,46	10,37
General administration	1,78	2,27	2,17
Courts of law	46	38	1,10
Jails	31	27	34
Police	2,06	1,97	2,03
Education	37	60	1,05
Medicine	62	1,39	1,67
Military	1,34	2,36	2,58
Steamship and marine departments	71	1,02	2,11
Sanitation	2	2,61	7,35
Furniture and gratings	2,10	1,34	1,32
Stationery and printing	20	64	28
Salaries, &c.	2,07	1,34	1,67
Refunds	36	23	64
Military	12,34	21,60	3,87
Public works	12,60	6,90	20,80
Miscellaneous	2,57	33	171
Total	61.13	62.34	1,07,41
Job and maintenance	1,34,12	1,21,32	2,17,02
Total	1,45,25	2,47,66	4,57,43
Closing balance	24.2	45,60	24,21
GRAND TOTAL	1,39,63	1,97,26	4,82,64

by great glaciers and the formation of great thicknesses of loess one deposit. The Indian has been the cause of serious and disastrous floods, the rapid stream dashes down gorges and wild mountain rapids, and in its lower and more level course it is swept by terrific bluffs. Even in summer when it is small, it runs to a formidable depth during the night. It freezes during the course of the day and into an immense ice current from the melting of the snow on the adjoining heights. Chiquito Nicks on the Indian it is even in the depth of winter. Several of the rapids more than 300 feet wide and 9 or 10 feet in depth. After leaving our camp for about 20 miles north-west through the table of Kootenai, into a river by North West Point, Province 11° 35' N. and 113° 51' E., near Astoria, at the western base of the Malahang mountains. The only point to which special attention can be made in the long history of its rapid, turbulent, frothy current is the wonder of gorge by which the river bursts through the western ranges of the Himalayas. The gorge is over 1000 feet in width and its bed is 14,000 feet in depth.

The Indian, in entering the Humber (mouth of the North Sea) at the mouth of the river, has found it to be about 100 miles long in August, and he has seen it at its greatest depth, and thick with sandbars and islands. It is fordable in many places, and the water is shallow, but floods or freshets are sudden, and Rajah Singh is said to have died a fool, apparently strayed as from 1,000 to 7,000 fathoms in crossing the river. Even the large mud banks left over which he spoke of are never more deep than 6 feet. Almost opposite Akala is passing the Jambh river, which brings down the waters of Afghanistan. The two rivers have about an equal volume, both are very swift and broken up with rocks. Local navigation during floods is the work of a wild confusion of rapids. The Khow river is now going for about 20 miles above the confluence, but a rapid pool above it renders the Indian river white. Although the seat of the upward migration, forms the first important point on the river within British territory. By this time it has flowed upwards of 200 miles, or nearly one half of its total length, its furthest course to the sea being about 400 miles. It has fallen from its elevation of 7,000 feet at its source in Tibet to about 2,000 feet, the height of Agra being 200 feet. In the hot season, opposite the fort its velocity is 15 miles an hour, and in the cold season, 5-7 miles. The rise of ordinary floods is from 5 to 7 feet in twenty-four hours only, and the maximum is 20

stream is afforded along its banks which abound with the date, *Phoenix*, pomegranate and other trees.

Mithankur has an elevation of only 200 feet above the level in land of the sea. From Mithankur the Indus forms the boundary between the Punjab and the Hyderabad State and, near Kashmore it enters Sind, at 26° N. and 69° E. From Mithankur to Sind is the longest yet unknown distance across the Sindhi as yet surveyed by the Survey of India (under *Sindh operations*). It first touches Sind some 10 miles west of Mithankur, in the Upper Sindhi Frontier District, separating it from the Hyderabad State and Sukkur District. It meets an extensive high marshy area at Pindriera and, incidentally, finding that it was there a river of the same name. To prevent this, the Kashmore authorities, which is the largest in Sind, was erected. Leaving Kashmore the river crosses Sukkur District dividing Larkana and Kachhi from the Khayrun State and its Arabic District. It then empties itself by many mouths into the Arabian Sea near Karachi after a south-westerly course of 450 miles through Sind. Its average width is from 450 to 1,000 yards; the average during the low season being 650 yards. During the flood it is in places 2,000 yards wide. Its depth varies from 2 to 20 feet. The water, derived from the waters of the Hindu, Arab, and Persian rivers, is clear and slightly tinged with yellow, impregnated with carbonate of soda, and capable of evaporation. Its velocity on the average averages 4 miles per hour at mid-current times of season. The maximum flow has been known to be 10,000 and a maximum of 250,000 cusecs. The temperature of the water is no lower than that of the air. Near the station of Sukkur and again at Karachi the river is spanned by a fine railway bridge. The Sukkur bridge was known in 1849 and remains the 7th bridge in having a stone girder with a span of 200 feet supported at the ends by a cast-iron pier 24 by 50 feet long. The Indus begins to rise in March attains its maximum depth and width in August and subsides in September. The maximum rise registered at Karachi near Hyderabad was 63 feet 7 inches in 1844. There are many other gauges on the river.

The delta of the Indus covers an area of about 1,000 square miles and extends along the coast for 125 miles. It is almost a perfect level, and nearly destitute of vegetation; the tamarisk and mangrove alone springing forth. In these respects the delta is similar to that of the Nile but dissimilar from the Ganges delta. The marshy portions contain sand

pasture, and rice grows luxuriantly wherever cultivation is possible, but the soil generally is not fertile, being a mixture of sand and clay. In the Shikharwar valleys are extensive deposits of sand. The climate of the delta is cold and raining in the winter months, hot in the summer, and during the floods much of the day.

Jhelum (Jhelam) River in Kashmir and the Punjab, being the most western of the five rivers down which the Punjab derives its name. It was known to the Muhammadan historians as the *Bihar* Wadi in Behatala, a corruption of its Sanskrit name *Viśatā* which Alexander's historians translated into *Hidaspes*, but Ptolemy more correctly as *Pudaspes*, while its modern Kashmir name is *Leid*. It may be said to have its source in a cold spring of drop-blue water which issues from the bottom of a high steep of a mountain spot. The spring is known as *Verdū*, and at Kharwal, 5 miles north, its waters join the stream of *Aliput* River, and thence, and down the steeping course of navigation. The river is no longer without a bright rock from Kharwal to Baramulla, the source. In its course to the *Chatal* Lake, which rises in the region of a delta of the river the fall is only feet in the first 30 miles and 45 feet in the next 25 miles. From the *Wular* Lake to Baramulla the fall is very slight.

The *Jhelum* river has many tributaries. On its right bank it receives the *Chatal* of Jammu, which comes down from the mountains, waters overflowing the head of the *Indus* valley are from the mountain side of *Tarai*. From Baramulla at *Wularpur*, the point of the marriage of the two rivers, the head river joins the *Wular* and then the *Wular* Lake the *Pothohar* stream, which drains the *Chatal* valley merges in the great river. On the left bank the chief tributaries are the *Yidhar*, the *Ram* river, the *Karnab*, the *Indragang*, the *Budang* and the *Fer* rivers. The *Chatalganga* joins the *Jhelum* at the lower end of Srinagar city.

Below Baramulla, 7,000 feet, the placid *Jhelum* leaves the fertile banks of the valley and rushes headlong down a deep gorge between lofty mountains of the *Karnab* range in the south and an extension of the *Indus* range in the north to K. 4,000, 2,000 feet. At *Mamflistad* the *Kushanganga* river joins the *Jhelum* on its right bank, where a few miles lower down and on the same side the *Kunab* river which drains the *Mazra* country adds no inconsiderable volume of water. Between *Kharuba* and *Baramulla* there are many bridges, but between *Baramulla* and *Jammu*, where the *Indragang* river

District. The Tin joins it almost at once and the first place of importance on British territory is Waurand where the Alexandra Bridge carries the North Western Railway across the river. Throughout its course in the plains the river flows in a wide and shifting bed of sand. A few miles south-west of Waurand the main branch of the Lower Channah (which takes off at Khatra) and thence the river flows on great sandbanks in bulk along the Channah on the west from the Khatra Jodi on the east until the junction point at Jhang Jodi at Trimmu. Thence the two rivers flow under the name of the Channah till joined by the Kari near Sathia and the Sathia at Madhina. The North Western Railway crosses it again at Sher Wila. Thence the united stream flows on under the name of the Jamrud, to join the Indus at Madhina. Small boats can navigate the Channah in the plains all the year round, but there is little under heavy transport.

There is evidence to show that the Channah flowed to the east of Madhina as late as A.D. 1249. The first town mentioned in old histories of India, and the former Channah and Kari met north-east of Madhina and flowing to the east of had been joined the beds 10 miles south of it and west of Loh. Thus Madhina and Loh both lay on the South-West Channah. By 1297 the Channah has altered its course westward and was flowing in the west of Madhina, as it still does. The part of the river which divides the western history of India from the old was known to the Mohammedan historians as the Sathard (SODHRA), from the town of that name on its left bank.

Wular Lake. Lake in Kashmir State lying between 34° 10' and 34° 24' N. and 74° 11' and 74° 21' E. at an elevation of 6,800 feet above sea-level. The lake has an area of 24½ square miles, but in years of flood, such as A.D. 1857 it may cover to 3 square miles. The Wular has a bad reputation among the historians of Kashmir, for when the Arabs came down the mountain gorges, he just accused it of lake treason and a sea of red by reason of its dangerous to the flat-bottomed raft of the country. The name is supposed to be a corruption of *Wular* (Wular) for 'wular' or 'the lake with high green water'. The ancient name is Mahagandharvata, derived from the Naga Mahagandhara, who is believed to be the god who gave depth to the Rohwar Maharat and from whom the lake has been named. The lake is a great source of water for the north, where from the south he begins to flow through branches and partly through the north-east corner of the lake and finally by long channels in a series of gulches, any of the

western shore in the shape of Warid in which stands the celebrated shrine of Shankaracharya. The chief products of the lake are fish, wild fowl and the mynah bird.

Del Lake. Lake in Kashmir State situated about 10 miles from Srinagar, measuring about 2 miles by $\frac{1}{2}$ and one of the most beautiful spots in the world. The mountain ridges which are reflected in its waters go in a matter of 2 and 3000 feet, the trees and vegetation on the shores of the lake being of enormous height. In the spring the flowers grow but of the trees and the mountain sides are interesting to the eye and it is perhaps at this time that the colours of the lake are most harmonious. The colours range from green to silver grey and delicate russet, with a red hue on the stems and branches, casting colours on the clear water of the lake which contrast most harmoniously with the rich blues and perfect greens of the floating masses of water weed. The shores are fertile with corn and the peasants stand up like garden paths to the sky. In the foreground under the trees are red and gold, and the water is now a mass of unbroken blue waves. Looking towards the sea from the lake the mountains to the left of the lake stand up to the left and to the right the hills of that Eastern with its picturesque belt full of recollections of the grandeur of past times. Between these hills are Srinagar and away to the west are the snow-capped mountains of Kashmir. The lake is calm and the peaks are that the shores of Kashmir stand out of their existence as being created as we gaze upon. Nature has done much for this lake but the Mughal emperors carried themselves up enhance its natural beauties and through the terraced gardens of Dalbagh and Nishat with the green roofs of crescent through which flows a stream from the down to the edge of the lake may not please the European landscape gardeners, he may find plantations which the great Mughals have wanted to preserve have added a decorative charm. The park of plants trees known as the Nader Bagh, the garden of flowers, which was planted by Akbar was in the most perfect of all. Nothing is perhaps more striking than the round Pars Mahal standing grandly on a spot of the jagged mountain, which was built by Shah Jahan who has taken Shah Jahan whose tomb is at Mahabud Bagh near the entrance of the lake water. There are two well-known islands on the lake known as the Bani Lanch or garden island and the Raju Lanch or silver one. The origin of the name has a connection. One authority states that the name signifies in the Kashmir language lake and that there is a tradition that the which means still. In the terminology of

Where the lake is called Dals. The cultivation on the lake is peculiar and interesting.

Ladakh. The most westerly province of the high mountainous land spoken of as Tibet is called Ladakh or Laddak. It is now politically a division of the Kashmir State lying between the Hindukush and the Karakoram mountains, and between Baluchistan and Inner Tibet. The Karakoram range forms the northern boundary as far west as the Karakoram range. The country is known to educated Europeans by such names as Mangshi, Nensu, Märyul.

Ladakh is one of the most elevated regions of the north. Physical elevation ranging from 9,000 to 14,000 feet. The actual population is found in scattered and isolated valleys, where along the river banks and in adjacent plateau regions are raised by irrigation. Ladakh is the most important division of the country. To the north is Nubra, consisting of the valley of the Nubra river and a section of the valley of the Shyok. The great floods of the Indus, caused by the descent of glaciers across its stream and that of the Shyok and the consequent descending flow of the Nubra river have caused great destruction to certain lands, once cultivated but now covered by granite sand. Here the fields are fenced to guard the crops from the depredations of robbers on their way to Yarkand. The south is the Kaghan country with its great lakes. Kaghan Lake covers an area of 60 to 70 square miles. Its width is 14 miles in length and lies at an elevation of 14,000 feet. The lake is ice-flecked and beautiful. East of Ladakh is the lake of Pangong, and in its neighbourhood crops of hardy wheat and peas are raised at an elevation of 14,000 feet. South west is the country of Zaskar with a very severe climate chilled by the high snow ranges.

The flora of Ladakh is scanty and timber and fuel are the main wants of the people. The *barbaris Fendula* is a tree 20 feet high which gives a fine fuel and in the high valleys a dense growth of ferns is found. On some hillsides the pine (*Pinus*) occurs, and on occasion, ravines the wild willow is found. Agriculture used to be dependent on the soil, as the ground was then devoid of fertility.

On the plains up to 10,000 feet wild asses or *Asus* (*Equus hemionus*), antelope (*Panthopsis* *Andaman*), wild yak (*Bos grunniens*), ibex (*Capra siberica*), and several kinds of wild sheep (*Ovis Andaman*, *O. vignei*, and *O. montanus*) are found, and

church on the hill was the widespread influence of the monasteries. The chief of these is Hama, which on the left bank of the Indus, 18 miles above Loh. This monastery, which contains 200 to 300 monks and many stands as the chief of a wild glen and covers a considerable space of ground. An important festival, called the Hama festival, is held annually on the sixth day of the fifth month (about June), when the whole country goes back to the monastery and witness the great devotion of the Buddhist monks. A famous spot, kept in the temple of Loh. The monastery is believed to contain great wealth and its treasure is kept under guard, in order to prevent it being carried over the border to India. The hard stone is lined inside with silver plate. Its treasure-house has small vases filled with pearls, turquoise, and rubies, said to be of value.

The population, 2,000, is the only place of importance in the Ladakh and there are besides only villages. It is the principal town of one range of high mountains in (Himalayas) and of the Argun or Badkash, particularly the whole population, excluding the town of Tash, in Kashmir. The people are the realists known. According to the last census there are four Jewish settlements living in Ladakh. They have the Mohammedan kind of features and are strong and well made, light complexioned and good tempered. It does do almost over their higher brow (hair) no land behind them after awhile. They are very truthful and honest, and it is said that in case the accused is defended with sufficient testimony and is guilty to as much as the crime of the crime.

Here are five main causes for the digital divide in your state: the language divide is probably easier, the literacy divide is high, especially for Hispanics, the income divide is lower off and good agricultural resources and the digital divide is particularly bad in rural areas. I have just said, the barriers are there, it is a complicated picture.

The Lushai may be divided into the Chhapan or nomads, who follow pastoral pursuits on the upland valleys, too high for cultivation, and the Lushai proper who have settled in the valley and the side valleys of the Indus, cultivating with great care every patch of cultivable ground. These two classes do not, as a rule, intermarry and Chhapan rarely furnish recruits to the mungai. The Lushai are most engaged in agriculture and in spite of the unbusiness of their dealings they are quite prosperous. Their great wants are fuel and timber. For the latter, the evergreen and the bamboo known as *hady*. Their only sacred trees are the

waterted and many willows and poplars which grow along the watercourses.

There are little doubts that the modest prosperity of the Jaulahs, as contrast to the universal poverty of Hailahs is due to the practice of polyandry which acts as a check on population. Whereas the Hailah, used to the extreme of hardship are apt to seek easy means to live, namely, the *malikana* as if they were long ways from their parents' home. In a *malikana* state there were many beards, but a single man could neither marry nor go abroad for business. When the eldest son married, he took possession of the estate making some provision for his parents and unmarried sisters. The eldest son has to support the two brothers next him in age who share his wife. The children of the marriage regard a father-in-law as father. If there be more than one daughter elsewhere, they must go out as *Malikana* to a stranger, as a *malikana* if he be a *malikana* a stranger son or son-in-law and his wife are a *Malikana*. A *malikana* son or son-in-law is the daughter's husband and his daughter has one husband and some live at all with a small customary provision. The *Malikana* husband is thus always at the disposal of the husband's family, but without any extent or community of divorce. When the eldest dies or becomes a *Malikana*, the next in order takes his place. But the wife, provided here are no children, are put out of her husband's house and her daughter is a third in her right of inheritance. The third is brother, and she is put out of her house and he marries his brother. The women in Jaulah has great strength and power. Most of the laws, such as the number of her husband. There she had a very intimate knowledge of Jaulah. Some that polyandry has had a bad effect on the women making them nervous and phlegmatic. But others, who are equally entitled to form an opinion, consider that an unfair criticism.

In the town of Loh are many families of half-castes known as *Argun*, the result of the union between Jaulah women and Kashmiri Turk. These are *divers* and *Ingalls*. The *Ingalls* children were known as *Chilavabdas* and were involved in the war. The half-castes of Loh are no more numerous as I said than elsewhere and many travellers have testified to the great goodness of the Argun.

The monastery *Gumbas* play an important part in the life of the Jaulahs. Nearly every village has its monastery generally built in a high place difficult of access. At the entrance are great *malikana*, sometimes worked by water

power, and inside a courtyard is a lofty square chamber in which the images and instruments of worship are kept. No women may enter this chamber. Every large family sends one of its sons to the monastery as a *Lama*. He goes young as a pupil, and finishes his studies as a *lama*. In a monastery there are two head *lamas*: one attends to spiritual, the other to temporal matters. The latter is known as the *Chagyal or Ngpa*. He looks after the revenue of the lands which have been granted to the monastery, carries on a trade of barter with the people and superintends the alms given by the villagers. He also enters into money-lending and grain transactions with the surrounding villages. Many monasteries receive subsidies from *Lhasa*. The *lamas* wear a *shagun* gown dyed either red or yellow. The red *lamas* predominate in Ladakh. The red ones known as *Devkpas* are not supposed to marry while in the priesthood. Numerous are *lhaspas*, found near the monasteries of both sects, but the *Chagyas* or some of the yellow sect, have a higher character than those of the red priesthood. About a sixth of the population of Ladakh is absorbed in religious houses. The *lamas* are popular in the country, are hospitable to travellers, and are always ready to help the villagers.

There are two missions at Lath: the Moravian and the The Missions
at Lath Lutheran. The Moravian Mission is an old and excellent institution, much appreciated by the people for its charity and devotion to the cause of religion. The mission has a little hospital, whither the Ladakhs, whose eyes suffer from the climate of the *do* and the confused life of the winter flock in great numbers.

The soil is sandy and requires careful manuring, and nothing Agrostis
can be raised without irrigation. The chief crops are wheat, barley, barley breadless barley, peas, rapeseed, and beans in the spring; high wheat, millet, and turnips in the autumn. Lucerne grass is grown for fodder. The surface soil is frequently renovated by top-dressings of earth brought from the hillsides, and it is a common practice to sprinkle earth on the snow in order to expedite its disappearance. Fruit and wood are scarce except in villages situated on the lower reaches of the Indus.

Barley grown in the most useful crop, and can be grown at very high elevations—5,000 feet. In the middle of Ladakh the crop is secure if there be sufficient water, and in the lower villages the soil is cropped twice a year as there is ample sunshine—but in *Zaskar*, which is near the high snowy

range he stops often for lack of man warmth. Ploughing is half done by the bullock of the yak and the common cow known as *bu* make up some herds. The animal is also used for transport purposes. Grazing is limited, and consequently the quantity of livestock is not large. There are a few varieties of grasses, those from *chabils* being famous. The food of the Ladakhis is the meal of grain made into a *batshi* and dried upon, or else into a dough and eaten with butter milk. The Ladakhis have no population, and as, and any how they can get.

Minerals. Rush is produced in Rupnig, and salt is found. About 450 carloads of borax are annually extracted, but the industry is probably restricted to the people up to the basin. In former days sulphur, naphtha and iron were manufactured in Ladakh at *Leh*, but the scarcity of fuel has now retarded these industries considerably.

Manufactures. Practically the only manufacture is that of woven cloth known as *patto* and *pothana*.

Commerce. The people trade in agricultural products with the *Changpas* of Tibet and with *Wardas*. Cash is largely exported to *Wardas*, and to a less degree to *Kashmir*, and is exchanged for grain, silver, tobacco, muslin and ponies. The chief commerce is the Central Asian trade between *Shikhar* and India.

Administration. Ladakh is under charge of a *Ward Waddat* who is resident with the *Wardas* and he three *Wardas* of Ladakh, *Kargil*, are *Shikhar*. His duties are light. There is little more to be said about the chief *Ward* and his disputes regarding trade or commerce that now Ladakh has under the control and of another. No justice here is maintained, but a small gathering of *Ward* (about 10 quarters) in the form of *Leh*, a building with mud walls. The *Ward Waddat* and his wife reside here, and he share his goods and property. This is the chief *Ward* of the *Ward* is the supervisor of the Central Asian trade which passes through *Leh*. For this purpose he is an officer *Leh* (and is now associated with a British officer appointed by the Indian Government). Each subdivision of Ladakh is in the charge of a *Ward* who is a *Ward*. His chief duties are to see that all reasonable assistance is rendered to the Central Asian traders and travelers. For this purpose the villages of each *Ward* are made responsible for furnishing baggage animals and supplies in turn, and according to the capacity of each village is the stages situated within the limits of the *Ward*. This is known as the *war* system. Primary schools are maintained at *Shikhar* and *Leh*.

The land revenue system in the past has been of a very ^{arbitrary} Land arbitrary description, the basis of assessment being the holding or the house. The size of the holding or the quantity of the soil receives little consideration. Taxes collected are perhaps not heavy though the rates are considerably higher than those now applied in Baltistan, but an incidence has been onerous, oppressive to the poor and very easy to the rich. A redistribution of the old assessments on a more equitable principle, and a summary revision where the assessments were obviously too high or underrnally low, have recently been carried out by a British official sent to the State. The greater part of the revenue is paid in cash but some is taken in grain and wool, which are necessary for the supply of the Great Asian traders. The grain is stored at convenient places on the caravan route on the charge of officials who sell to the traders. But for this system trade would be hampered for after leaving the Nubra valley and crossing the Karakoram range no fodder is available on the Tibetan road till Ladakh which in Chinese territory is reached, and grain for feeding animals must be carried from Nubra. The strain of forced labour is heavy in Ladakh. Not only a large transport force for individual missions, assistance to the trade route, &c. but several commissions are allowed to employ unpaid labour for trading purposes.

Agricultural advances, chiefly seed grain are made for the most part not by the State, not by the merchants and the private farmers are hard on debt for the very low interest rates. There are not harsh rebates. When the debtor is hopelessly involved the moneylender takes possession of half of his land for a period of three years. If the debt is not liquidated within thirte years, the land is returned to the debtor and the debt written off. The moneylender will never use a debtor's land ever permanently alienated for debt.

Baltistan. A tract under the North Western Frontier Province, Kashmir, lies between the Little Pamir, lying approximately between 34° and 36° N and 74° and 77° E. It is bounded on the north by the Sulayman range and Nagar, on the east by Ladakh, on the south by Kashmir Waddwan, and Pishin, and to the west by Gilgit and Sost. The tract is situated in the midst of enormous mountain ranges with peaks of 25,000 and 26,000 feet, and one above 27,000 feet, and glaciers which are the largest known out of Hindu regions. The villages cling to the river valleys, the most important of which are the Indus, the Shyok, and the Shigar, together with the Dirai and

Suru rivers which unite near Kargil, the Trakia and Basher which join the Shigar and the Hadre and Baltara which join the Gilgit and above Kisapala, one of the most fertile oases in Hindustan.

Botany. There are no forests of any kind or value. *Pinus* and *populus* grow in clumps on the hills. In the villages and along the roadsides, where water is available poplars and oaks, as well as fruit trees, grow freely. In the hill-sides and great stony lands *Juniperus*, *Salix*, *Crataegus*, and *Malus* are gathered by the people.

Climate. The rainfall is light, about 6 inches in the year and the air is dry and freezing. The snowfall is often considerable, and is of great importance to the villages which depend on the snow for their irrigation. In which and he gets snow remains from the middle of December till the middle of March. In Kanda snow falls less. The land is inferior most of the rivers freeze and from natural traps superior. The high tracks on these hills, and there are many villages which the people says do not melt for snow than an hour daily. The climate in the spring and autumn is mild, but in July and August the heat in the villages on the border is very severe, especially in the sandy places of Bhandu and the narrow rock-bound valley of Kanda.

History. The old rulers of Kashmir, known as Rishis or Kashpas, trace their descent from a *Rishi*. One of the most famous of the Kashpas was Kashpa who lived about the end of the seventh century. He conquered Ladakh, and built the fort on the rock at Skardu. Ashudh Kash was the last of the independent Rishis. His fort was captured by the Afghan general Zahir Khan in 1840, and he himself accompanied Zahir Khan on his ill-fated expedition into Tibet, and died in captivity near Lhasa. Several of his most relatives were deported as political prisoners to Kashmir where their descendants still live. The present Rishi of Bhandu have lately recognised justice but the people still look up to them with respect, and have studied their words even to learn each sentence.

The people. The Rishis are of the same stock as the Ladakhis. They have Mongolian features, high, hard bones, and even drawn out of the corners, but the nose is not so depressed as in the case with the Bhotas of Ladakh. There is very little difference between the Bhandus from the Ladakhis save the structure of the jaw, but they are perhaps lighter in build and skin. They are good natured and patient, and are devoted to polo. In spite of much oppression, they are a merry, light-hearted race.

always ready to laugh. Their dress consists of a short tunic and trousers of wool and raw skin lac-ds made somewhat stiff by grass soaked inside. They shave the head, leaving long efflocks growing from behind the scapulae into which they entwine flowers.

When the Hattis adopted Islam and became Shi'ah they embraced agriculture and while in Persia where slavery prevails the population does not fall heavily on the land in Shi'istan the population, owing to polygamy is too large for the cultivated area. The density rises to 440 persons per square mile of cultivation in Chahmah and the average per square mile of cultivation is 170. The cultivated area divided of the lands held by a family leads to homages becoming too small but the occupant can no longer maintain it out of hand but directs his land and turns to other means of earning a livelihood. There is an consequence much poverty and the Hattis escape to India in search of relief or carry kins to India and establish.

The principal castles are Kaji, Kaji, bar of and Hekula. The Kaji are numerous, the strongest and best known of the bar; but the Kaji castles including the local chiefs and their subordinates, into a remarkable area of education and other numerous castles. The Kaji are numerous from the bar, and are a distinct group from the Kaji. According to Major Kaji, the Kaji are numerous from the bar, and are a distinct group from the Kaji. According to Major Kaji, the Kaji are numerous from the bar, and are a distinct group from the Kaji.

The most important towns in Halruwan are Khazir, Shagar, Birkah, Bawa, Kundi, Haramal, Kari, Shagur, Choral, Parkash, and Loh. Farther east lies Kari, where some of the population are Buddhists, acknowledge the moral aims of Islam as their spiritual head. The Halru have suffered great hardships from misadministration and forced labor in the die. The language of the people is T'wan, a dialect of T'wan, and Kari. It differs little from the latter language, but the two peoples understand each other's talk.

(3) It rains frequently on irrigation and where grass is grown, plenty of excellent crops are raised. The actual work of cultivating, except ploughing, is done almost entirely by women, as the men are away working, as is the Island Jains, carrying loads to Lanchik and other villages, regarding the water courses and by means of which their side wheels are driven. In many places the fields are too small for ploughing by

cattle, and then either quadrilateral labour is employed or the ploughs are drawn by human beings. The plough is light and is made entirely of wood. The chief spring crops are wheat, barley, barless barley, green peas, beans, and lentils. While both wheat and *Manihot manihoti*, and *Asparagus officinalis* are the most important of the autumn crops. Turnips are also grown as a late-spring crop after barley and peas. Potatoes are the highest and most profitable, in where manure is deficient, the land bears two crops each year.

Upland land, usually a long and difficult to cultivate situated high up the slopes of mts. is above the cultivation proper of the village, and known as *alakh*, is reserved for growing winter grains, chiefly barleys. This is always squared, fenced, and carefully looked after.

The soil is light and requires little ploughing. The time for sowing depends on the season and when sown late being it is still well cleared by spring and earth over it. Amongst other peculiarities of cultivation in Kashmir may be noticed the large amount of vegetation grown in spring crops as compared with that given to autumn crops. The practice of rooting out the crops, instead of cutting them, the little preparation given to the soil after the spring crop has been harvested and before the autumn crop is sown on the same land, and the utter absence of manure crops. In some villages good tobacco is grown. No crops can be raised without manure. As a rule the soil after earth is stored up to house up and mixed with the dung of all the human and animal. The latter is always collected in small water cartwheels. The dung is spread out in the spring in baskets and spread by hand over the land from which it was collected. It may also be used in form of cakes.

Fruit play an important part in the economy of the Rajas. The gardens are extensive, and are largely exported to Kashmir and the Punjab. The dried fruit and the berries are both in great demand. The traders pay large sums in advance for the crops. Mulberries are of importance of food. Apples are exported. Further south, in quality hardly surpassed by the best English fruit, and good grapes, melons, and cucumbers are common.

Minerals.

Coal washing is carried on in many villages, and all find it profitable, and get about 4 the measure from his source. The water runs by a stream, for good washing is possible. In Kang is the most extensive of the water, the good product is of great importance and for the most part the land is elevated high above the present river level. The present method

washing are wasteful, and with better appliances the industry might give a large return. Arsenic is met with and sulphur abundant. Copper is found in it veins, and while some efforts in several places, but is not collected.

There is very little trade. Tea, cloth, sugar and rice are Commerce imported, and there is a small business in salt from the sea and rock salt. The most considerable export is that of apricots and apples is growing, but exports are now restricted. Kashmiri Agriculture manufacture is a very fine but (such as the *phelan*), requiring thousands of such jacket jackets are made. A commodity is the *ashraf*, a green stuff like the an *ashraf* jacket found in the Nagar valley. *ashraf* jackets are made of it, and a Kashmiri and the *phelan* is used as an substitute to jama and as a covering worn in eye diseases.

Communications are of the worst description, and money Road particularly open to road making would add greatly to the comfort and prosperity of the Valley. Several routes connect Baramulla with Kashmir Ladakh, and Ahar and the dangerous road leads to China. Of the Kashmir routes one passes over the *ashraf* plains. There is an elevation of 15,000 feet, and are surrounded by a ring of lofty mountains. For most of the year they are under snow and even in the summer the road at night is frozen. The *ashraf* plains are marginal stretches of grass and straw, with under a long cloth of ice, snow, and unharvested by the the mountains on the several trees and bushes of big dark green. The character of the land the drainage from human habitation, and local superstitions regarding the *ashraf* plains prevent the people from using the pastures of *ashraf*.

Baltistan has recently been placed under the charge of *ashraf* the Wazir Wazir of Ladakh. His local deputies are the *ashraf* *ashraf* of *ashraf* and *ashraf*. Both *ashraf* have recently been settled in a British culture and it is probable that the long suffering and patient *ashraf* may have to live or die. The *ashraf* of *ashraf* will continue more actively with the people and a definite sum out of the revenue *ashraf* has now been allowed in favour of each family. The total land revenue assessed at the recent settlement of the *ashraf* of *ashraf* and *ashraf* was 14 lakhs. Of this about a fourth is taken in kind.

GILGIT. It is a quarter of a scattered district of Wazir of *ashraf* the Kashmir State situated in 35° 45' N and 75° 15' E at an elevation of 4,000 feet above sea level. The Wazir stretches south to Ahar and the northern slopes of the *ashraf* *ashraf*.

don't see good grass up and down in the valleys and spring
Nets in the spring, in the lower and more fertile hills, subject to
flocks of wild sheep. The rivers and streams are not with

The climate is healthy and dry. At night and in winter Climates
very cold, and snow covers the hills more than a foot heavy.
In the summer it is hot going to the south from the north
mountains, but it is cool compared with the climate of
Kashmir, India. The rainfall is very high.

The remains of ancient stone buildings and Buddhist Monks
cave-dwellings suggest that Gilgit was once the seat of a Buddhist or
Hindu dynasty whose traces of civilization still are pointed to
the fact that the people in its early times was the largest tribe
known in the region. It is more evident the inhabitants of Gilgit
have seen Muhammadans, and nothing definite is known about
the first Hindu predominance. A certain source states that the last of
the Hindu King, the Rajah, known as Kalan Kalan the man
of the world, was killed by a Muhammadan invader. It is founded
a new dynasty known as the Rajah. No further tale is told as
have extended to the end, and the establishment of Islam seems
to have been up the kingdom into a number of small states
carrying on a traditional culture and ancient slave-raiding.
The Rajahs of Gilgit in more recent times it is stated
that the present ruler of Gilgit has a right claim of
tribe and blood. In the early part of the nineteenth century
we find Kalan going to the Rajah of Gilgit. He was killed by the
ruler of Poonch, who in turn was killed by the Rajah, chief of
Nagah. The Rajah was the only one known who was killed
by another Hindu ruler of the region. The subsequent history
of Gilgit and Kashmir. The history of Kashmir, as far as the

history of Kashmir, is intimately connected with that of
Kashmir. More than 200 years ago, when Muhammad, a Persian
adventurer, is said to have founded a province of the Hindu
emerging society. The last was born of his own lineage.
Raj of Kashmir, who is now a Muhammadan, is said to be
from him are descended in the line of the present ruler of
these places. The independence of Kashmir seemed to the English
conquered. The present ruler of Kashmir is the great
descendant of the Rajah of Kashmir. The English rule has secured
peace to the people, but it is not long before the majority
of them comes from the devastating slave raids of the

The Muslim states of Gilgit, and the population, the
amounting to the number of 100,000 in 1883. The premier in
the isolated area is great, the demand being 100 persons
per square mile. The people of Kashmir and Gilgit are

supposed if they were told that they were Dards living in Dardistan and their neighbours of Hunar Nagas and Yabm would be easily misled. It remained, they would probably dwell in these countries as Sainikka, or the land of the Shins where there is the spoken language. They are not a happy people, they have never known peace and order. They are devoted to war and are fond of dancing. The inhabitants of their wear a jet black head-dress, a bag of leather half a an long which is rolled up, outwards at the sides. *Sainikka* gets to the size to be comfortably to the head, round which the roll makes a protection from cold or from sun, nearly as good as a turban. Their houses are small with very small doors, and are usually built out from the mountain side. Warlike is the war consideration. The Amdes have never very far has advanced. These Indians had they held the war in abhorrence. They will not drink such a much war and they have no long the war as far as he has and in a war with village he will not and fight of them. They practice the same for making their one epidemic. The people of Hunar are Musalmans, the others being of the Hindu persuasion, and the rest being either Shikhs or Muslims. There is no religious intolerance in Hunar.

Now mentions the following caste divisions. Bams, Shins, Yashikhs, Kermas, and Jams. As regards the Bams caste, he says that there are a small number of families in Lugh. *Shikhs* he says is the father of the Hindu Amdes states that it forms a large part of the population and that it is the most numerous caste of all ranking next to Musalmans of the Hindu caste of Lugh. The members of the Amdes belong to the Yashikh caste, and the Shins are few in number, under 1000. They are more numerous in Lugh. He says nothing of being, according to he comes being 33. The Shins are regarded with great respect by the Yashikhs and the other castes. He Yashikhs claim the Shins as their forefathers. The Shins give him daughters to Jams and to Shikhs, but take wives from the Yashikhs. Far away in Lugh. Lugh, as he says, they live other kinds of the Buddhist religion. They have measured the Amdes some of the countries where they came and its kind, but they were the people and the Yashikhs are. It is said that, though Hindu in name they are a very different species and descent. They measure their are by the fact that they are not with Tibetan Buddhists, and the Shins in Lugh, then hold the war in abhorrence.

In Lugh, as in Amdes there are few social distinctions, but

the people are forced to depend on themselves for most wants of life. The language spoken is Shina, though only a small percentage of the population is Shina. The religion is Islam, the Shiah sect preponderating. There is an entire absence of fanaticism. The national character is mild, and the men are unwarlike. The Laski is attached to his home and his family, and is an industrious cultivator. Both men and women are strongly built, and of a fairer complexion than the people of India. The women paint their faces with a kind of clay paste to keep the skin soft and to prevent sunburn. They are fond of flowers, and decorate their caps with daisies and roses.

The cultivation is of a high character. The fields are carefully tilled, heavily manured, and amply irrigated. In August stock feed rice is grown, and crops of wheat, barley, maize, millet, buckwheat, pulses, rapeseed, and cotton are raised, while fruit is plentiful. There is very little grazing land, and cattle are scarce. Lacquer grass is largely cultivated for fuel.

In the cold dry climate of Astar cultivation is carried on to an elevation of 9,000 feet. It depends entirely on irrigation by tube channels known as *ku*. The chief crops are wheat, barley, peas, maize, millet, and buckwheat. The people pay great attention to husband and cultivate the lacquer grass. Cultivation is precarious in Astar as the crops frequently do not ripen owing to the cold, and there are several vegetable plots in the shape of oases.

Most of the streams are rich in gold, especially those which descend from Hunza and Nagar, and also the Indus above Chilas. Gold washing is carried on in the winter chiefly by the poorer members of the population, though the work is often remunerative. At Chilas whole families live by the work. The gold is of fair quality, the best being twenty carats. The Nagar valley is celebrated for gold washing, and contains many signs of mineral wealth.

The only manufacture is the weaving of woollen cloth (*gashir*), but this is for home use and not for sale. Trade does not flourish. The local wants are few, and the only chance of Gilgit becoming an important commercial centre lies in the opening of a trade route to Yarkand. The chief staple of export is silk. Kashmiri cloth is brought down from Yarkand, and is said to be more durable than the English article.

The most important roads are those leading to India. The Karakoram road over the Bura and Raj Dillingan passes has been

described in the article on Kashmir. But at route length here is a distance of 300 miles from the present railway line at Baramulla. An alternative line has been opened over the Helmand pass, which brings Jhelum within 250 miles of the railway at Haveli Abid. This new line, besides being shorter has the advantage of crossing only one main pass, instead of two, or actually three if the winter snow at Burahe be taken into consideration. The routes to the south are more tracks, which by no means make crossing any longer with the addition of Ladakh and Hunza have been joined.

Post and Telegraph Offices

There is a daily postal service with India by the Jhelum-Jammu and Kashmir and the telegraph line follows the same route. Both services work well in spite of heavy snow and destructive avalanches, and are maintained by the Government of India. There is a weekly postal service from Jhelum to Chilla and again to a halting place for over 400 miles to Kashmir via the Karakoram in the summer and the Murak in the winter.

Armed Police, etc.

The Light Waziris in charge of a Wazir Wazir Company in eight thousand are put and in police uniforms. Police duties are carried out by the levies and a few soldiers of the Kashmir regular troops. There is little taxation and the chief business of the Wazir is the provision of supplies to the garrison at Jhelum now effected by an excellent system of transport from Kashmir. In 1892, at the time of the Hunza-Nagar expedition, the garrison had a force of 2,400 men, while the Chitral had 1,000 men. The total force consisted of 3,400 men, the present garrison numbers 1,000, including a machine-gun battery, a battery of Imperial Service Rifles, and Kashmir regiments and troops. A school is maintained at Jhelum.

Land Revenue

A land revenue settlement of Azir and Chitral has been made. It was found impossible to introduce a permanent assessment, owing to the state requirements in grain and many surpluses and always were removed, and, on the whole, the condition of the villages is satisfactory.

Political Situation

A British Political Agent resides at Jhelum. He exercises some degree of supervision over the Wazir of the Kashmir State and is directly responsible to the Government of India for the administration of the adjoining districts of Jhelum, Hunza, Nagar, Azir, Chitral, and Ladakh, the little republic of Chitral, and also for relations with Tangir and Dard with which ably the Jhelum and the Maharaja of Jhelum have partly acknowledged as one. These states acknowledge the suzerainty of Kashmir but form no part of its territory. They pay an annual tribute to the Maharaja.

Hamm and Nagar in gold, Chila in cash Rs. 1688). Ash, Hamar, Yupa, and Chama in grain, goats and pigs. The relations of the British Agent with the ruling states are extremely satisfactory. No undue interference takes place in the administration, and the people are encouraged to maintain their customs and traditions intact. Besides the ordinary government business of the Kashmir State there is a small but an important element here of such as are armed with blades, arrows, which are drawn from Hamm, Nagar, Poonch, and Chilla.

Shimshal. A group of small villages in the valley of the Jhelum, lying west of Baramulla and south of Chilla. The territory extends from the junction of the Aul river with the main river on the right bank and Jaldra on the left bank of the latter river. It has thus area the people are grouped in communities inhabiting some of these villages, each community forming a separate division. Starting from the junction at Baramulla there are in order on the right bank four Baramulla, and Hinder, and on the left bank Poonch, Chilla, Baramulla, Chilla, and Nagar. This constitutes the area known as the Chilla subdivision of the British Agent's while the people proper includes Baramulla, Baramulla, and Chilla. Lower down the river are Nagar, Nagar, Chilla, and Nagar on the right bank and Hamar, Nagar, and Nagar on the left bank.

After the conquest of Chilla by Kashmir in 1834 the British Agent imposed a tribute in gold-dust, and arranged for the administration of the country as part of the Kashmir State. A British Agent was established at Chilla in 1834, which he used, among other interests, for the collection of tribute above except Nagar. In 1834 a British mission to Chilla was attacked by the British, which led to the recognition of their sovereignty and the appointment of a British agent at Chilla. The right of the Kashmir State to maintain trade and station a larger number of troops in the territory was secured but the sovereignty of the Chilla was preserved. Under the treaty of 1834 it was made in the regulations (as they have come to be known) that in 1834 there was an agreement on Chilla. There has resulted a tribute of gold-dust to Kashmir since 1834 when the Maharaja's forces entered the country. The tribute is now paid through the British government. Nagar pays a small tribute to the government of Chilla. The remaining communities have no political relations with either Kashmir or British India except Chilla which has its own government. There and the town of the British state in the North West Frontier Province.

Hunan-Nagar. Two small chiefdoms, lying to the extreme north-west of Kashmir on the banks of the Hunar river. To wards the north they extend into the mountains near Qazwan which adjoin the junction of the Hindu Kush and Sulaiman ranges. To the south they border on Turgai. On the west Hunan is separated from Ishkoman and Yaman by a range of mountains while the Marthigh range divides Nagar from Baltistan on the east. The inhabitants of both chiefdoms speak the same language, but are not used to one another and live with each other. In Hunan the people are Muslims or Jammies, followers of the Aga Khan, while in Nagar they are exclusively Shikhs.

Lying between these States and Turgai are Chagret and Chalt but it is more difficult to trace their history. In 1833 the ruler of Nagar with the assistance of the Kashmiri Durbar had actually captured the disputed tract but in 1836 he was compelled to withdraw his troops which were required by a garrison from Kashmir. In the same year Lhamun Khan, the Khan of Turf of Hunan, was assisted by his son Sakhar Ali, who succeeded him and presently submitted to the Maharaja of Kashmir. The two chiefs combined in 1838 and expelled the Kashmiri troops from Chagret and Chalt, upon threatening Turgai but both chiefdoms were reconquered by the Kashmiri forces about a few months.

A British Agency was opened at Gilgit in 1849 and the Durbar agreed to permit the arrival of the Agents to give free passage through their territory and to stop trading caravans at Ishkoman and elsewhere. Early subsidies being granted to them, besides the amount paid by the Kashmir State. These engagements were not repeated and in May 1851 a caravan came from Hunan and Nagar threatened Chalt but it perished in the narrowest of mountain passes. Later on the year they refused to allow roads to be made to Chalt, extending to the frontier and it became necessary to dispatch troops against them. Nagar and Hunan were occupied and the *Tham* of the former place submitted while Sakhar Ali the *Tham* of Hunan, fled to British Turkestan. The subsidies were withdrawn, and a British officer and military have remained at Hunan till 1854 but in 1855 Miran-ul-Nazim Khan was issued as *Tham* in place of his half brother Saidul Ali, while the *Tham* of Nagar was re-instated. In 1855 subsidies were again granted by the Government of India and the Kashmir State and in the same year both chiefs assisted in the relief of Chalt.

Zame Zilad Khan, *Tham* of Nagai, died in 1904 and was succeeded by his son *Sikandar Khan*.

The *huz* of Hama, who claims *Rudra* and the *Tagh* districts *Pinar* north of the *Harid* & *oth* watershed is permitted to exchange presents with the *Chowra* authorities at *Kashgar* but these relations are under consideration. Both States are *autonomous* as regards *external* affairs, and recognize the *sovereignty* of the *Maharaja* of *Kashmir* to whom they pay a *tribe* of *nominal* value. They furnish *levies* for the defence of the *frontier* and *supply* *grain* to the *Kashmir* State and are armed with *modern* *weapons*, purchased by the Government of India.

Baramulla. Town in the State of *Kashmir* situated in 34° 1' N and 73° 1' E. Population 1901 1,500. (Being in its position in the *lower* part of *Kashmir* this is a place of *minor* importance but in consequence of the opening of the *air* route from *Baramulla* to *Srinagar* the *importance* in which the inhabitants chiefly depend upon *tourism* is *increasing*. It is situated on the left bank of the *Jhelum*, which is crossed at the east end of the town by an *ancient* bridge. The climate here is but the *usual* part *rather* *at* *atmospheric*. *Baramulla* is very *near* to *the* *mouth*, and in 1881 it was *almost* *destroyed* by *ruins*. The name is derived from the *name* of a *tribe* *tribe*, which lived on the right bank of the river along which it *used* *to* *flow* down the *hills* *and* *to* *run*. *Opposite* on the bank where the present *Baramulla* stands, was the *place* of *King* *Kapota*, founded by King *Harid* in the *12th* *century* *when* *the* *ruined* *Kapota*. The seat of the *ancient* *Baramulla* is about two miles to the south-east of the *modern* *Baramulla*.

Baramulla. Town in the State of *Kashmir* situated in 33° 54' N and 73° 33' E. About a mile from the right bank of the *Jhelum*, near the point where that river becomes navigable. Population 1901 9,100. It lies upon an elevated table land, on the slope of which runs a *stream* *and*, overlooking the town. From its foot there is a *good* *spring*, the *waters* of which are *applied* to the *use* by *Hindus*. There are *several* other *springs*, one of which the *Ministry* is *superior* and its water is highly prized for garden cultivation. Many of the inhabitants are *sheep* *breeders*, and a large number are engaged in agriculture. It is generally believed that *Baramulla* was once a large and prosperous place, but now there are few signs of prosperity or growth. The *climate* *is* *very* *unhealthy*, and the conditions a danger to the health of the capital, *Srinagar*.

Jammu Town. Capital of the Jammu province Kashmir State and the winter head-quarters of the Maharaja, situated in $32^{\circ} 40' N$ and $74^{\circ} 55' E$ at an elevation of 10, but above sea-level. Population (1901), 36,190. It lies high on the right bank of the river Tawi which flows at a sufficient distance to give the town a high position. The town covers a space of about one square mile, densely packed with single storied houses of mud and stone and mud with flat roofs. In the upper portions are numerous houses of brick, and on the Marsh stand the Singh gills or ghats and the palaces of the Maharaja and his mother. The general effect of Jammu is its being, and from a distance the white-washed temples, with their gilded gnomons, suggest a spiritualism which is dispelled on nearer acquaintance. The most conspicuous of the temples is Raghunath's, but like all the other buildings in Jammu it is unimpressive. The Singhs have little taste in architecture and are essentially unoriginal and practical in their ideas of domestic comfort.

The railway which runs to the left, a distance of about 25 miles, starts from the left bank of the Tawi. The river is spanned by a fine suspension bridge and a good cart road runs from the bridge as far as the Marsh. The other streets are narrow and irregular and there is nothing of striking interest. Of late years the construction of new roads, the opening of the road to the Marsh, the suspension bridge over the Tawi, and the railway extension from Jammu have improved the road distance in its approach, but there has been no marked response either in population or in prosperity.

In the present days of high finance towards the latter part of the nineteenth century it is stated that the population was 150,000. There is nothing in the geographical position of Jammu which makes for progress. It lies on the edge of the Maharaja's territories, with an unproductive hinterland. High spending it should have been the stimulus for Kashmir commerce but the concentration of the high finance cart road has taken trade away from the Jammu Barabati route. At present there are hopes of the development of commerce to the south, which might bring prosperity to the Jammu capital and the railway projected from Anant to Srinagar would revolutionise business.

The town is situated on a hill. It may be aptly called 'the city of temples,' as every traveller is likely to be impressed with them, while approaching by road or train. The largest and the central place of worship is the temple of Sri Raghunath. The town was a great centre of industry at the time of the

the Mahārāj Ranvir Singh but now it is merely the residence of the ruling army and the officials of the State. The governor (Maharaja) of the province with his revenue officer, the Chief Judge, the Sub-Judge and two magistrates of the first class, the Deputy Magistrate of the second class, the Superintendent of police, various provincial and district judicial officers and the heads of various departments all live in Jammu, together with the staff of these several offices. A large hall, called the *Chhatra* was erected by the late Maharajah for the accommodation of the present King Emperor when he visited Jammu as Prince of Wales in the year 1905. The Mahārāj Ranvir Singh and the palace of Raja Hari Singh situated in a Baramulla hill towards the north of the town are the two other main. The former palace has a daily average of 368 persons, and costs about Rs. 20,000 per annum. The State high school is located in a large building, and is doing fairly efficient work. It contains about 800 pupils. A college to be named after the Prince of Wales is shortly to be opened. A State hospital (in construction) costing approximately Rs. 24,200. Local representations have been made on the drainage system of the town which is managed by a municipal committee and more important works in this respect are under contemplation.

Kashan. An average village in the district of Jammu, Jammu division. Kashan situated in 32° 22' N and 75° 12' E on the right bank of the Ravi and Jangraon is and the District Population 17,125. Kashan numerous reports of interest. The buildings are stone and brickmasonry, and the place has no paved and no state. The climate is unhealthy and the water supply is poor and bad.

Murpur. Town in the Jammu district, Jammu province. Murpur is situated in 33° 11' N and 74° 42' E at an elevation of 2,100 feet above sea level. It is 22 miles north of the British garrison of Poonch and is said to have been founded about 10 years ago by the Maharaja Ranvir Singh and his son, Maharaja Hari Singh. It is situated on the edge of the Karthi Range, from which drinking water is easily procured. There are several rather fine stone temples, the chief being the Narayan Mandir built by Maharaja Ranvir Singh, the Raghunath and the temple of Shri Anant Nath. The town contains 200 shops, forming a long, narrow running row and more. Apart from the shop-keeping class, Brahmins and Sikhs, of whom many are settled in Murpur the other caste are mostly of the artisan or manual labour. There is a flourishing

State school badly housed, and a dispensary in a building wholly unsuited to the purpose. The town has a neglected appearance. The streets are badly laid, dirty and unwatered, and there are no attempts at conservancy. Trade is brisk. It is mostly in the hands of Marajans and Bhatris. The chief articles of export to British India are grain, gins from the hills and Panch, and various forest products from Kailash, Panch, and Bhatra. The chief imports are salt, silk, tea and sugar.

Panch. From this place an old ridge of the same name leads into State territory on 11° 45' N. and 74° 5' E. at an elevation of 3,500 feet above sea level. It lies on sloping ground above the right bank of the Tawi. Population (1901), 1,073. The town is oblong in shape, and is surrounded, with sparse streets. There are about 750 houses, generally single-storied with flat mud roofs. The fort, in which the Raj resides, stands on a mound about 500 yards from the south-west corner of the town. Panch is well supplied with water brought by channels from the neighbouring streams. The climate is hot in the summer and the few birds in the neighbourhood are probably one of the causes of the prevalence of fever. During the five hot months it is the custom to migrate to the hills in the summer seeking ground beneath the firs. There is a flourishing market and a large trade is done in grain and gins in spite of the fact that there are no roads in the district for cart traffic. A great festival called the *panch* festival has long been celebrated from the festival. Except the *belong* and there is a project for a road to Kumbhari, with a suspension bridge over the Tatham at Larkhan Pith. Other important trade leads to Srinagar and Tithi Wadda in Kashmir, and to *belong*. The principal market was Panch, and the river is still now traded in the *belong*. The Kumbhari river is called of Panch as Panch.

Srinagar

Srinagar. Capital of Kashmir State situated on 34° 5' N. and 74° 30' E. at an elevation of 3,500 feet above sea level. The city lies along the banks of the Tatham, with a length of about 5 miles and an average breadth of ½ mile on either side of the river. Originally houses were confined to the right bank of the river and the site possesses many advantages, strategic and economic. It is not known when the settlement on the left bank took place, but the principal residence was transferred to it in the reign of Ananta, 1016-53. Modern Srinagar on the right bank occupies the same position as the ancient city of King Pravarasena, who ruled at some period of the sixth century. Ballana, in his famous chronicle, says that the

city contained 3,50,000 houses, and writing of his own times, he states that chaps were numerous reaching to the clouds. Later Mirāḥ Haidar and Abū Fāz moved on the lofty summit of Sreīnagar built of pure sand, and Mirāḥ Haidar says that the houses had five storeys, and that each storey contained apartments, halls, galleries, and towers. The city lay cradled between the hill of Nāraka, now crumpled into Hādī Parbat, and the hill of Cāpa (Cāpādhra, now commonly known as Shāhī Sulaimān or Sulaimān's house). Beyond the hills lies the expansive Jhel Lake, the never-failing source of food as well as pleasure to the citizens. In Muslim times the Hādī Parbat was not fortified. The present fort on its summit is quite modern, and the bastioned stone wall encircling the hill was built by Akbar. There are various legends regarding the temple known to the Hindus as Nārakaśāntara, which crowns the picturesque peak of the Shāhī Sulaimān. The latest legend is that ancient, but the name and high base of the temple is probably very old, and is connected with the worship of Jyēṣṭhavarṇa, on whose temple the legendary King Jambū built a shrine.

There are not many buildings of note in Sreīnagar. On the hillside left bank stands the abeyāgarh, the residence palace of the English rulers, where Sir Michael and his family live and the State officials work. The site was chosen by the Afghan governors for their fortified residence. Across the river is the forest glade on Sreīnagar the Muzra Rājā, with grand stone steps leading from the temple of Hamaśāhī, a relic of the more ancient Hindu shrine in Kashmir. In front of the ancient buildings in the valley are houses of masters, rubbed from the old Hindu temple. Lower down on the right bank is the beautiful museum of Shāh Hamaśāhī, one of the most sacred places in Kashmir. As usual, it was built on the foundation of a Hindu temple, and a Hindu shrine is visible in the stone foundation, a deity worshipped by the Hindus. It is constructed of slender wood, painted in carmine. The pagoda has had a surmounting by a curious dome capped with brass, and the four corners of the roof are finished by a band of gargoyle with large swirling scrolls attached, a form of construction which obviously suggests Buddhist influence. Next in order is to the North Hamaśāhī is the great mosque, or Ima Masjid, a short distance from the right bank of the Jhelam, between the bend of the river and the Hādī Parbat. This is a Saracenic building of more grandeur, with chambers about 100 yards in length, surrounded by grand pillars of slender 30 feet in length, rising

from the falling of a beam. The first bridge, the Amran Kadal, though it was submerged, but the second bridge, the Haveli Kadal, disappeared and carried away the other five bridges which span the river. The old fashioned and picturesque Amran Kadal has now been replaced by a handsome masonry bridge. The flood of 1895 was surpassed by the yet more serious inundation of 1903.

The valley is liable to earthquakes, and since the fifteenth to a century which great earthquakes have occurred, all of long duration has accompanied by great loss of life. The last two assumed their most violent form in an epidemic area of which Srinagar and Baramulla were the focus. In 1881 the shock lasted from May 30 till August 14. There was a general panic and the people kept out of doors. Just as the city of Beirut in 1860 was swept into conflagration, so down as very likely would it be laid before the shock of the earthquake.

In the great famine of 1877-8, though the city did not suffer from the same extent as the villages, it is stated that the population was reduced from 125,000 to 100,000.

Episodes of cholera are unfortunately frequent. In the thirteenth century there were two epidemics, that of 1862 probably proving the most disastrous. 5,000 persons died at Srinagar and the loss at the same time in Luck. All business was stopped, and the only shops which remained open were those of the makers of shawl cloth for wearing shawls. The epidemics were rendered more deadly by the filthy habits of the people and the neglect of sanitation. Since then conditions have improved. A good dairy supply has been the assistance to keep antiseptic regulations in hand, and well dressed city streets are replacing the narrow alleys. Streets have been paved and many narrow paths and excavations have been filled in, but much still remains to be done.

In spite of drawbacks, the population has risen from 118,500 in 1881 to 121,418 in 1901. Of this total, 51,871 are Hindus and 94,721 are Muslims. The sexes differ by 15,327 persons per square foot, an increase of 451 since 1891. The Kashmiris are notoriously a peaceable race, and friendly of both to foreigners are not uncommon.

The worst famous shawl industry is now only a shadow. The trade received its death blow in 1870, when war broke out between Germany and France, and the lingering hope of revival was shattered by the famine of 1877-8, when the poor weaver shawl weavers died like flies. A full description of shawl weaving will be found in Munro's *Trends*, vol. II.

chap. 22. The State took Rs. 30 per annum from employers of shawl-weavers per hand, an amount of 30 per year on the manufactured shawl, and an export duty of Rs. 7-15 on a long shawl and Rs. 5-15 on a square shawl, but the weavers earned only one or two annas per day. According to M. Imberville the Kashmir shawl dates back to the times of the emperor Akbar. The first shawls which reached Europe were brought by Napoleon, at the time of the campaign at Kabul, as a present for his emperor's nephew, and from that time shawls became fashionable. The shawl was made of the finest wool, *payung*, gathered from the goats of the *seem* mountains, the best material coming from the *Tam Shal*, *Chitral*, *Mountain* and *Lok* areas. The finest shawls were made until between the years 1850-55. These ranged from Rs. 15 to Rs. 100 and British agents from Rs. 25 to 50 the value of shawls averaged 25 to 30 half pence annum, and when the trade was at its height 25,000 to 30,000 persons were engaged in the manufacture.

Carpets

Many of the shawl-weavers who survived the famine of 1877-9 have now turned to carpet-making in the neighbourhood of Srinagar, and several Europeans carry on this business. The work is of good quality and the pattern after being designed by the artist is rendered in the design of *zafra* (saffron) a series of triangles, arranged but only to be cut, indicating numbers and colours. The man who reads these designs to the rows of weavers and those who sit at the loom, lift five and six rows, or of one thousand rows. It is easier for the weavers to have an idea as to what the pattern of the loom will be. Many carpets are employed in embroidery of silk or cotton. The hair are imported from England, but only of a somewhat inferior description are manufactured locally. The embroidery introduced at Srinagar are perhaps the most artistic of the kind, besides (comprising a extensive variety) is a carpet made manufactured with a wool, and the patterns are similar to the shawl designs. The dyes employed are indigo, mallow and madder.

Paper making

The acquired work of paper making once had a great reputation, but at present the activity is in a somewhat neglected condition. The making of real paper is still made from the pulp of paper of waste, and the labourers chiefly apply their beautiful designs to wood. These designs are very intricate and the drawing is all freehand. The skill shown by them in sketching and coloring is remarkable. The work is known as *hand-drawn* in the best

specimens of the old work were preserved (handwritten but a variety of styles, such as tables, columns, and trees are now made, and the richer classes decorate their ceilings and walls. Paper-making has perhaps suffered more than any other industry from the loss of the foreign participant; and capital and other European varieties are now largely used.

The silver work is extremely beautiful, and some of the finer workmanship appearing. The design and work are of exquisite design. The silverwork works with a hammer and chisel, and will probably save new designs that may be given to them. I understand are very common regarding the quality of the silver put into the work, and want proper system of work would be a boon, not only to the purchaser but also to the manufacturer.

The government works with a hammer and chisel, and many of the present craftsmen are men who used once to work as slaves. They also work in brass. Their designs are very quaint and bold, and they are very ready to adopt any new pattern that may be offered to them. The copper work of Benares is admirably adapted for electroplating, and some smiths now turn out a finer kind of article especially for electroplating. A large demand has grown for brass and copper items framed as tables or raised water-cum, and the carpenter is now the main ally of the craftsman. (If the enamel work the engraver on bones are the best, though the engraved silver work is very good.) A development of the art has been the cross combination of Indian traditions and motifs, and of Persian and Kashmir copper work. After centuries, the hand has been turned to the north or otherwise limited to give an appearance of age.

The wonderful progress both the South of the Punjab and
affairs, but the Kashmiri never is inclined to serve as his ^{work}
as a designer. He works with a hammer and chisel and
a great deal of the roughness and irregularity of his parts is
due to the difficulty of carving against unyielding wood. The
carving is now much bolder than it was formerly the patterns
are larger and the carving very deep. Beautiful carvings of
pallets, trunks, chairs and other furniture are made by a few car-
penters, who with marvellous skill piece together thin layers of
ply-wood. This is known as *shishpand*. A great impetus
has been given to this industry by the builders of house boats,
and the darker colours of the walnut wood have been mixed
with the lighter shades of the pine. A good specimen of
modern woodwork is found in the well known shrine of

Kashmiri are far from the Jinn Masjid. A few of the *Shikharbani* ceilings have been introduced into England.

Leather. There is a large trade in leather. Hides are procured in the villages by the *Wallas* and are then brought to Srinagar where they undergo further preparation. The leather portmanteaux and valises made in Srinagar stand on account of rough usage which few English made leather bags could survive.

Furs. The furriers of Srinagar chiefly depend for their livelihood on the business given to them by sportsmen, who send in skins to be cured. The recent law for the protection game, under which the sale of skins and furs is prohibited, has curtailed the business of the furriers.

Goldsmiths. The goldsmiths possess very great skill, and are especially proficients in watchmaking.

Paper. Kashmir was once famous for its paper which was much in request in India for manuscripts, and was used by all who wished to report news to their correspondents. The pulp from which the paper is made is a mixture of sage and hemp fibre obtained by pressing these materials under a heavy mill, worked by water power. Lime and some kind of acids are then added to soften the pulp. The pulp is then placed in skins brought in from the sea, and mixed with water, and from this mixture a layer of the pulp is extruded on a tight frame of reeds. This layer is the paper, which is pressed and dried in the sun. Next it is polished with palm-leaf stone, and its surface is glazed with rice-water. A final polishing with urys stone is given, and the paper is then ready for use. It is durable and so many have collected, but it cannot compare with the cheap *Bam* paper of India.

Boats. The boating industry largely concerns the people of the city. For touring boats owned by private persons and used for private purposes, there are about 2,500 boats employed on trade and passenger traffic. The greater portion of the grain and wood imported by river is brought in large barges, not unlike canal barges. These are towed or poled upstream and drift down the river with the current. There are two kinds of barge. The larger will carry a cargo of 500 to 1,000 maunds, while the smaller can carry 500 maunds. One of the most common form of boats is the *dogra*, a flat-bottomed boat about 50 to 60 feet in length, and about 6 feet in width, drawing about 2 feet of water.

Education. A high school is maintained by the State with an average daily attendance of 376 in 1900-1, and several primary schools are scattered about in the various *mohallas*. Excellent results

are said to be attained but though the quality may be good, the quantity is small.

There is an excellent State hospital in Srinagar at which Hospitals about 11,000 in-patients and 18,000 out-patients are treated in the year; and two branch dispensaries which deal with 32,500 out-patients annually. A new hospital was completed in 1899 at a cost of Rs. 40,000.

In medical as well as in educational work Srinagar is fortunate in enjoying as auxiliaries to the State schools and hospitals the able and unselfish services of the Church Missionary Society. The history of the mission is interesting, and recalls the honoured names of Robert Clark, Elmale, Maxwell, and Downes. Opposed, despised, and persecuted, these good men stuck bravely to their work and the small and almost hopeless beginning made in 1865 by Doctor Elmale, without a habitation and without friends, has grown into a well-equipped force which plays a civilising part in the lives of the people. Outward opposition has given place to genuine admiration, and in 1893 the present Maharaja presided at the opening of the women's wards of the mission hospital. The leper asylum has been made over to the care of the mission. At the beginning of 1901 this had 76 patients, and 69 others were admitted during the year. In the same year the Medical Mission treated 14,515 out-patients and 1,251 in-patients, paid 36,969 rupees, and performed 3,147 operations. Apart from the work done at the hospital the missionaries tour in the most remote parts of the State.

1. **Background:** The first step in the process of creating a new product is to identify a market need. This involves conducting market research to determine what consumers want and need.

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1. The first step is to identify the problem. In this case, the problem is that the system is not working properly.

1. *What is the purpose of the study?*
 2. *What are the research objectives?*
 3. *What is the research methodology?*
 4. *What are the results of the study?*
 5. *What are the conclusions of the study?*

Me → Right hand side is longer

The first step is to identify the key components of the system. This involves understanding the hardware and software requirements, as well as the data flow and processing logic. Once the components are identified, the next step is to design the system architecture. This includes defining the overall structure of the system, the roles of the various components, and the interfaces between them. The design phase is critical, as it determines the feasibility and performance of the system.

Drugs taken with food or milk may be absorbed more slowly than when taken on an empty stomach.

These are very good examples of a person who is not a member of the group, but who is a member of the group's culture. This is a very common situation in many organizations, and it is one that can be very difficult to manage. The person who is not a member of the group, but who is a member of the group's culture, is often the person who is the most influential in the group. This is because they are the person who is most likely to be seen as a role model by the other members of the group. They are also the person who is most likely to be the one who is most responsible for the group's success or failure. This is why it is so important to have a good understanding of the group's culture, and to have a good understanding of the person who is the most influential in the group. This is why it is so important to have a good understanding of the group's culture, and to have a good understanding of the person who is the most influential in the group.

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The *Journal of Management Education* is a peer-reviewed journal that publishes research, theory, and practice in the field of management education. It is published by the American Management Education Association (AMEA). The journal is a leading source of information for management educators and researchers.

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Table 1. *Staphylococcus aureus* strains and their antibiotic resistance patterns

Parameter	Value	Standard error	t	Signif.
α_1	0.0000	0.0000	0.0000	1.0000
α_2	0.0000	0.0000	0.0000	1.0000
α_3	0.0000	0.0000	0.0000	1.0000

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Fig. **b**

It is important to note that the results of this study are based on a cross-sectional design. Therefore, the causal relationships between the variables cannot be definitively established. Future research should consider longitudinal designs to explore the temporal dynamics of these relationships.

[illegible]

$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

1. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

Page 2 of 2

Hence

$$\frac{d}{dt} \left(\frac{1}{\rho} \right) = - \frac{1}{\rho^2} \frac{d\rho}{dt}$$
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Zain-ul-abidin (1330), his wife, tolerant reign, 14, 15; encouraged Hindu religion and learning, 14, introduced Persian as official language, 14, repulsed the Chakras, 15; his refuge for boats in the Wular Lake, 93; built the Jama Masjid, 118.

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